Lectures
ON
SOME POINTS RELATING TO INJURIES TO THE HEAD.

Delivered at the Royal College of Surgeons,

BY WILLIAM HENRY BATTLE, F.R.C.S.,

HUNTERIAN PROFESSOR OF SURGERY AND PATHOLOGY, ROYAL COLLEGE OF SURGEONS; ASSISTANT SURGEON TO THE ROYAL FREE HOSPITAL AND TO THE EAST LONDON HOSPITAL FOR CHILDREN; FORMERLY RESIDENT ASSISTANT SURGEON AND SURGEON REGISTRAR AT ST. THOMAS'S HOSPITAL.

LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—Permit me in the first place, before entering on the more immediate subject of these lectures, to thank you for the honour which you have conferred upon me in electing me to the position which I occupy to-day. Believe me, I am not unmindful of the fact that with the honour there is also responsibility, and trust that you may consider the result of my investigation into the subject which I have chosen not unworthy of the theatre in which it is delivered. I have taken as a title for these lectures "Some Points relating to Injuries to the Head," and purpose asking you to consider with me more especially the effect of injuries when fracture of the cranial base has been produced, with some of the complications which are only too liable to accompany these fractures or follow at a longer or shorter interval after the force producing them is expended. It would obviously take more time than that at my disposal to consider the whole subject of injuries to the head, including those of the vault; indeed, many of the cerebral and other complications which may arise even after fracture of the base will, I regret to say, remain unnoticed. It is acknowledged that a consideration of this subject will compel me to travel over much ground which has been well trodden by others, but where this is so I hope that the additional facts which I bring forward, though they be only in confirmation of established views, will prove of sufficient value to make the remarks of interest to those who are engaged in the treatment of head injuries. Surgery has done much in recent years to diminish the mortality formerly dependent on injuries of the cranium and its contents, and our literature has been much enriched by numerous contributions on the subject from the pens of able writers in this country and abroad; but this has been chiefly with regard to fractures of the cranial vault not usually extending into the base. It has seemed to me, however, that the subject of fracture of the base of the skull has not received attention to an extent corresponding with its surgical interest when we consider the importance of the part and of the structures in the immediate neighbourhood, or the high rate of mortality which still prevails after such injury. There are many reasons for this, and the chief of them is that during the course of a year's surgical work at any of our large hospitals the number of cases which is presented for treatment to any one surgeon in which the base of the skull has been fractured is not large, and should any symptom of unusual character be manifested there is a tendency to wait for another and similar case before the attention of the profession is drawn to it, and if the case required does not come the observation is lost. Isolated facts, too, are apt to fall out of mind and lose importance as the memory of them becomes less distinct. For several years in various official capacities I had the privilege of seeing the surgical practice of St. Thomas's Hospital, and of closely observing amongst other cases many of injury to the head, and through the kindness of the members of the surgical staff of that hospital I am enabled to bring before you a series of the cases which were under care in that institution during a part of that time, and can thus present a comparatively large number of examples for consideration. To these I have added the results of experience obtained at the Royal Free Hospital or elsewhere. I have made a summary of most of them, and it will be to cases in this group that my remarks will refer unless mention is made to the contrary.

TABLE I.—NON-FATAL CASES OF FRACTURED BASE.

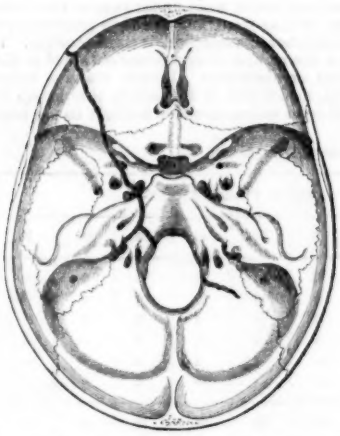
—	Males.	Females.	Ages in Years.—Under— 5	10	20	30	40	50	60	70	Total.
Anterior fossa	16	5	—	3	3	6	3	4	2	—	21
Middle fossa	50	6	3	4	8	16	13	6	5	1	56
Posterior fossa	10	1	—	2	2	—	4	2	1	—	11
Middle and anterior fossæ	15	5	1	4	2	4	5	3	—	1	20
Middle and posterior fossæ	4	1	—	—	—	2	1	2	—	—	5
Anterior, middle, and posterior fossæ	1	—	—	—	—	—	—	1	—	—	1
Total	96	18	4	13	15	28	26	18	8	2	114

TABLE II.—FATAL CASES OF FRACTURED BASE.

—	Males.	Females.	Ages in Years.—Under— 5	10	20	30	40	50	60	70	Total.
Anterior fossa	4	3	—	—	—	—	2	2	2	1	7
Middle fossa	13	1	1	1	1	5	5	1	—	—	14
Posterior fossa	10	—	1	—	1	2	2	2	1	1	10
Middle and anterior fossæ	2	1	1	—	—	1	—	—	—	1	3
Middle and posterior fossæ	8	3	2	1	1	1	1	1	2	2	11
Anterior, middle, and posterior fossæ	5	1	—	—	—	1	2	1	2	—	6
Posterior and anterior fossæ	—	1	—	—	—	—	—	1	—	—	1
Both middle fossæ	1	1	2	—	—	—	—	—	—	—	2
	43	11	7	2	3	10	12	8	7	5	54
Non-fatal	96	18	4	13	15	28	26	18	8	2	114
Total	139	29	11	15	18	38	38	26	15	7	168

I do not propose to consider at any length the way in which fractures of the base of the skull are produced, for this has been very thoroughly dealt with by others. I think it right, however, to say a few words before proceeding to other parts of the subject. Fractures of the base of the skull may be produced by direct or by indirect violence. Examples of the former are afforded by (1) thrust wounds, usually of the orbit or nose; (2) a blow on the chin driving the condyle of the lower jaw through the glenoid fossa, as shown by a preparation in the Museum of St. George's Hospital; (3) a blow on the nose, fracturing the bones which enter into its formation and the cribriform plate of the ethmoid. The fracturing force may also be conveyed through the condyles of the occipital bone, either from a fall on the buttocks or feet or as the result of the impact of the body weight on the condyles in a fall on the head. Two opposing forces will also produce a fracture, sometimes limited to the central bones of the base. They may also be caused by contrecoup, but are most commonly the result of extension of a fissure from the vault into a fossa on the side to which the violence is applied. They may also be compound, either as the result of the force acting at the point struck, or from their extension into cavities which communicate with the external air; for this reason the majority of fractures of the base of the skull are compound when they are in the middle fossa, through implication of the middle ear, also a large number of those in the anterior fossa from extension of the fracture through the cribriform plate into the nose. As a rule, when they extend into the base from a fissure of the vault, the fracture in the base retains that character, but it may present some comminution, a not unusual circumstance when it has been produced by direct force.

FIG. 1.

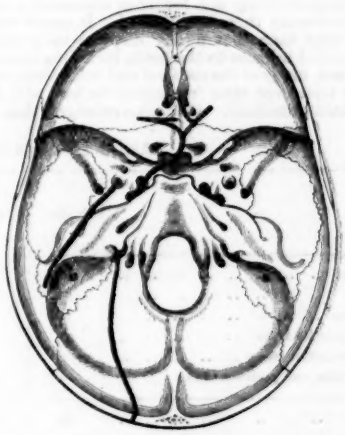


Fracture of the base of the skull, extending across the foramen magnum.

I have here a table showing the result of an analysis of fifty-four of the fatal cases which have been under my observation, and in which the situation of the fracture was demonstrated on post-mortem examination. They are most of them fissured fractures, and do not include punctured fractures of the orbit or occipital region. If we, like Dr. Aran,[1] divide the skull into three zones or segments—an anterior zone formed by the frontal, the upper part of the ethmoid and the fronto-sphenoid; a middle zone by the parietals, the squamous and the anterior surfaces of the petrous portions of the temporals, with the greater part of the basi-sphenoid; and a posterior zone, including the occipital, the mastoid, and the posterior surfaces of the petrous portions of the temporals, with a small part of the body of the sphenoid—we find that out of thirty-one cases the line of fracture was strictly limited to the anterior in seven, to the middle in fourteen, and to the posterior in ten. When two fossæ were implicated in a fracture, the middle fossa, from its position and connexions, was necessarily the one most frequently affected. Thus in eleven the middle and posterior fossæ were involved, and in three the middle and anterior. In two instances a fracture extended across the middle fossa from side to side, so that on removal of the skull cap the halves could be freely moved on one another. In only one case was there fracture in the posterior and anterior fossæ, the anterior one being apparently caused by contrecoup. In six the three zones were all affected. In one instance this was not from continuation of the same line of fracture, but the right posterior, right anterior, and left middle fossæ presented isolated fractures. The patient had been struck by a cart that was being driven quickly along, and thrown on the kerb. There was therefore a sufficient explanation. Usually the line of fracture is arrested if it meets with one of the foramina in its course, especially if the foramen is a large one. But here is a diagram (Fig. 1) which illustrates a curious condition and one of much rarity—a fracture extending across the base to the foramen magnum, starting again on the opposite side of the foramen. Vibrations must have been conducted round the bony margin of the foramen, and become amplified where they met after completing the circuit to an extent sufficient to produce fracture. The structures occupying the foramen were uninjured. Fig. 2 shows an unusual result of a blow on the left side of the occipital bone. The force which caused the injury was so severe that fractures are found extending much in the same direction, obliquely across the base, from the point struck; but each is limited in extent, and commences in a different line from the preceding one, with which it has no connexion.

We have most of us read with pleasure Hilton's "Notes on some of the Developmental and Functional Relations of

FIG. 2.



Fractures of the base of the skull dependent upon injury to the left occipital region.

certain Portions of the Cranium,"[2] and have been struck with the explanation which he gives of the uses of the cranial eminences, their usefulness in the conduction of vibrations which have been transmitted to the skull to points where, from the nature of the surroundings, these vibrations are least calculated to do harm by extension to the brain. In the anterior fossa they are communicated from the part struck to the anterior clinoid processes, which, in the normal relationship of parts, are attached to membrane and surrounded by cerebro-spinal fluid, in which the vibrations are lost. In the middle fossa the petrous portions of the temporal bone being separated from the basilar process by an intervening layer of soft or membranous structure, the vibrations conducted in this direction become here also obstructed without transmission to the brain or the bone beyond. In the posterior fossa vibrations are conducted from the spine to the occipital condyles, along the jugular process to the petrous bone, along the basilar process to the posterior clinoid processes, which are surrounded by cerebro-spinal fluid, along the ridge of the

[1] Arch. Gén. de Méd. sér. iv., tome vi.

[2] Selected and edited by Dr. PAVY.

foramen magnum to the internal occipital protuberance and longitudinal and lateral ridges. Vibrations started by a blow on the back of the head are also conducted to the posterior clinoid processes, to the petrous bone, and along the vault to the crista galli in front. Thus alighting on the feet or on the knees in a fall from a great height[3] gave rise in one instance to a breaking off of the apex of the petrous bone, and of both posterior clinoid processes; in another instance to a fracture also of the right petrous bone, and a slight fracture of the same side of the sella turcica; and, in a third instance, the only bone broken about the skull was the cribriform plate of the ethmoid.

In a similar way may be explained the following cases:—

A woman aged sixty-two fell down stairs, knocking her left eyebrow. She died apparently from shock, and at the necropsy the lesser wing of the sphenoid on the left side was the only part within the cranium that had sustained injury, and that was splintered. A woman aged fifty-five died in a similar way after having been thrown from a hansom. She had received a wound over the eyebrow, and at the necropsy it was found that there was no fracture of either spine or skull, excepting of the anterior clinoid process of the sphenoid on the side corresponding to the wound. In another case, a man aged twenty-nine, who died of extensive fractures of the vault, extending from back to front along the left side of the base, there was a small isolated portion of the roof of the tympanic cavity loosened and easily removed with the forceps. The main fracture ran some distance away from it and in another direction.

With regard to the *separation of sutures* at the base, it was not uncommonly found that the line of fracture ran into one of the sutures and caused separation, but at no post-mortem was the fracture seen to be limited to a suture; it always extended into a bone beyond. The sutures between the occipital and other bones were most commonly separated. Some one case, that of a child aged three years and a half, who had been run over, in addition to fracture of the middle fossa there was separation of the squamo-parietal suture on each side.

I have not met with fracture involving the apex of the orbit to an extent at all like that stated by Van Hölder.[4] He says that in fifty-four out of eighty-eight instances of fractured base there was injury to the optic foramen, but in forty-two out of the fifty-four the injury had been from gunshot; this still leaves twelve instances of the fracture of a simple character, making a proportion quite beyond what the records of our post-mortem rooms or pathological museums afford in this country. It is a recognised fact that fractures of the base may unite perfectly by bone, but there are many examples extant of imperfect union, the uniting medium being only fibrous tissue. Two cases which recovered from the fracture to a greater or less extent died some months afterwards from other causes, and in both there was good bony union; but the line of fracture remained very distinct. The following cases illustrate what was probably a second fracture of the base on the same side of the head and in the same fossa:—

A coachman aged twenty-six was admitted into St. Thomas's Hospital, under the care of Mr. Sydney Jones, in 1881. He was insensible and vomited continuously for two days, during which time free bleeding from both ears continued, and the pupils were widely dilated. On the cessation of the bleeding a thin watery discharge from the right ear followed, and only ceased six days later. Deafness in that ear remained. Three years earlier he had had a similar injury to the head, with profuse bleeding from the right ear.

A man aged thirty-three was admitted to the same hospital, under the care of Mr. MacKellar, on July 11th, 1886. He had been found by the police lying insensible in the street. He was unconscious, with hæmorrhage from the right ear. He remained unconscious for some time with a pulse of about 60, and on the third day his temperature was only 96·8°, and was frequently subnormal after this during his stay in hospital. It appeared from the statements of his friends that he had been in Guy's Hospital from March 30th to the 11th of May of the same year; and Mr. Parkin, the surgical registrar, has kindly written to me about him. He was admitted under the care of Mr. Durham suffering from the effects of a fall, quite insensible, and bleeding from the right ear; the pupils were contracted and small. Pulse 80, weak; respiration 16. Soon after admission he had a convulsive attack, moving his head and drawing his legs up. Four hours after admission he became sensible. He had other epileptic seizures during his stay in hospital. He had been subject to "attacks of giddiness" between times.

Let us consider the symptoms on the presence of which we have to depend for the diagnosis of fracture in one or more of the fossæ into which the base of the skull is subdivided. The symptom most commonly met with, and the one on which we rely, more especially in those cases which come under our notice soon after the infliction of the injury, is hæmorrhage from the seat of the fracture and its appearance in the neighbouring tissues, or its escape from the nose, the mouth, or the ear, and not unfrequently its presence in the matters ejected from the stomach. The great vascularity of the mucous membrane of the nose renders it liable to bleed readily when injury has been done to the anterior part of the head by a fall or blow, which may have caused a laceration of the mucous membrane lining it, or a fracture of some of the bones entering into its formation; and it is necessary to examine as to the local effect of an injury and the presence of other indications before epistaxis can be regarded as a useful sign. In the cases in which fracture of the anterior fossa was diagnosed sixteen had hæmorrhage from the nose; but in the majority this was combined with other symptoms, such as hæmorrhage, to a greater or less extent, into one or both orbits, or from the mouth, and in those instances in which there was reason for suspecting a fracture of the middle fossa also it was present in fifteen. In one patient the hæmorrhage from the nose continued for three days; in another it was very free when lying on the left side, and continued for four hours. As a rule, it was profuse at first and did not recur; but one patient had a return on the second and fourth days after the injury, and another on the fifth and seventh days. In the fatal cases it was a symptom in sixteen, but in only nine was any fracture of the anterior fossa found at the post-mortem examination.

Hæmorrhage from the mouth is also unreliable unless accompanied by other signs. This symptom was present in ten cases, in five of which fracture of the lower and in two fracture of the upper jaw was found. Of fatal cases, nine had bleeding from the mouth, and of these one was dependent upon fracture in the anterior fossa, involving the cribriform plate, and eight accompanied fracture in the middle fossa. Once the bleeding was free and appeared to be arterial, for it was of a bright cherry-red colour and profuse. In some of these the blood probably came from the mucous membrane of the pharynx, but the difficulty in examination of the fauces and pharynx during the period that this symptom is met with is great, and I can offer no definite statement from personal observation. In a case recorded by Aran[5] the bleeding came from a rupture of the internal jugular vein. Hardly separable from these two signs, hæmorrhage from the nose and mouth, is the appearance of blood in the vomit, and whenever this was sufficient to attract attention one or both of them was present, sometimes to a marked extent. Once the vomiting continued the whole of the first day, and the quantity of blood in the vomited material was large; on another occasion a patient vomited blood on the sixth, seventh, and eighth days after admission without apparent cause. The possibility of its being a symptom of pre-existing disease of the digestive tract must be borne in mind, though such a complication is undoubtedly very rare. The blood vomited occasionally has the appearance of "coffee grounds" if it has been retained in the stomach for some time, and so simulates more closely the hæmorrhage of some forms of gastric disease. Hæmorrhage from the ears is acknowledged to be a most important sign of fracture in the middle fossa; this applies more especially when the bleeding is copious and sustained. Thus, of the fatal cases of fracture only involving the middle fossa, there was bleeding from the ears in ten out of the thirteen, and the amount of blood lost varied considerably; most commonly it *trickled* from the ear, but was computed at thirty ounces in a short period of time in the case of one patient whose clothes were saturated with blood, and was present in eleven where the fracture involved other fossæ as well as the middle fossa.

Most of the cases recovered in which the fracture was supposed to be in the middle fossa, and the diagnosis of the

[3] Sir Prescott Hewett and Mr. Hulke in Holmes' System of Surgery, vol. i., p. 587; Jour. de l'Exper., 1843; Bull. de la Soc. Anat. de Paris, 1848, pp. 193-258.

[4] Berlin: Graefe, von Samisch.

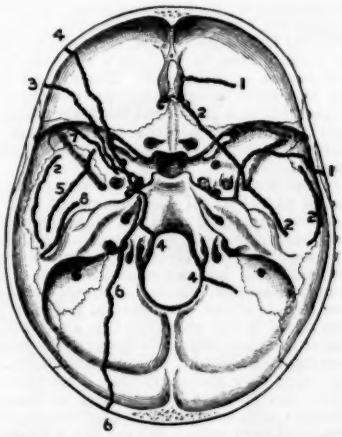
[5] Loc. cit.

position of the fracture was largely based on the occurrence of hæmorrhage from the ear. Thus, out of eighty-two, blood came from the right ear in thirty-two, from the left in thirty-three, and from both ears in nine. Not infrequently the hæmorrhage recurred. This happened in different patients as late as the fifth, sixth, and seventh days respectively. At no time did it last longer than a week after admission, but flowed freely for the whole of that time in one. In one of the patients it was considered advisable to examine the condition of the membrana tympani on the second day, to see whether it presented a rupture, but the necessary removal of the clot which blocked the external meatus produced renewed hæmorrhage, which went on for hours. In the main, these observations confirm the opinion that immediate profuse and continued bleeding from the ear is an important sign of fracture of the middle fossa, and of a fracture passing through the tympanum associated with a rupture of the membrana tympani, also that that fracture has lacerated some of the vascular channels round the petrous bone.

Mr. Erichsen[6] says that "copious hæmorrhage from the ear, to the extent of many ounces, has been known to occur from a fracture of the anterior and inferior part of the meatus auditorius externus, in consequence of the condyle of the lower jaw being forcibly driven up against it, the jaw itself having been fractured." And, in confirmation of the fact that this occasionally happens, I have here a specimen removed by Mr. E. C. Stabb from the body of a patient who died in the Royal Free Hospital under the care of my senior colleague, Mr. Gant, to whom I am indebted for permission to bring the case forward. In this you will see a very unusual association of fractures—fracture of the bony wall of the external meatus and also a fracture of the petrous part of the temporal bone; but there was no rupture of the membrana tympani; so that, although a fracture of the posterior and middle fossæ of the skull was correctly diagnosed, that in the latter position was supposed to be indicated by the bleeding from the ear, which in reality came only from the external meatus. The patient, a general dealer, a short, thick-set, heavy man, aged forty-four, fell backwards off a coster's barrow which he was driving, and was picked up unconscious. He was admitted to the Royal Free Hospital at 10.45 A.M., on April 22nd, 1890, only a short time after the accident. Examination of the head showed a scalp wound about 1½ in. in length over the left occipital region, not extending to the bone, and no irregularity of the skull could be felt. There was rather profuse bleeding from the left ear and slightly from the mouth. No paralysis of limbs or face; pupils inactive, right contracted, left dilated; at 2 o'clock they were equal, but still inactive. Then in a semi-comatose state, emitting a strong odour of rum, he rallied considerably later, and at 6 P.M. was able to talk to his wife and tell her where his money was. At that time his pulse rate was normal. Two hours afterwards his face was becoming livid and respiration stertorous, 24; pulse 100. At 9 P.M. there was more stertor, the pulse was slow, and the temperature, which at 6 P.M. was 100·2°, had risen to 103°, and he died at 9.30 P.M. completely comatose. At the post-mortem examination, there was some extravasation into the scalp surrounding the wound, and a fissured fracture, extending from it downwards and forwards across the posterior fossa, terminating in the foramen lacerum posterius. A second fissure, extending from the superior border of the left petrous bone at its junction with the squamous, passed forwards and inwards across the anterior surface of the petrous bone, terminating in the foramen ovale. (See Fig. 2.) A third fissure, starting from the foramen lacerum medium, passed forwards and inwards across the sella turcica and optic groove, inwards in a zigzag manner, and ended in the cribriform plate of the ethmoid on the right side. A portion of bone forming part of the anterior wall of the left external auditory meatus was fractured and driven into the meatus, as if by the condyle of the jaw being driven against it. The periosteum of this part of the meatus was torn. The membrana tympani was intact. The fissure in the petrous bone did not extend into the meatus, the periosteum of the roof being uninjured. The brain presented a superficial laceration of the left lobe of the cerebellum just under the site of the fissure in the skull and below the seat of the injury. There was laceration of the olfactory lobes, the apex and under surface of the right frontal lobe, also of the apex and under surface of the right temporo-sphenoidal lobe. Hæmorrhage had occurred from the brain, and there was a small hæmorrhage into the substance of the pons.

It is probable that the fracture in the meatus was produced as follows: After the occipital region had struck the ground, the head was thrown forwards and the lower jaw caught between it and the chest of the falling body, the condyle being forcibly driven against the part of the meatus which was afterwards found broken and displaced. Other cases were observed in which after death a fracture was found in the middle fossa of the skull, and in which during life no satisfactory evidence was forthcoming as to the situation of the fracture, there being no hæmorrhage or discharge from the ear. There were eight of these fractures. None of them involved that portion of the petrous bone which contains the auditory apparatus (Fig. 3). Of those recovering after supposed fractured base hæmorrhage from the ear was accompanied with epistaxis in fourteen cases, with hæmorrhage from the nose and mouth in four. In three fatal cases there was hæmorrhage from the nose and ear; in two from the nose, ears, and mouth. A very rare phenomenon, of which I have only found two cases, is hæmorrhage from the eyes. It is a symptom to which much importance cannot be attached, and probably depends on slight laceration of the conjunctiva, but I am bound to admit that no wound was found in either case. The blood might possibly have

FIG. 3.



Illustrating the position of some fractures which involved the middle fossa, and were not accompanied with bleeding from the ear. Sometimes there were fractures in other fossæ also, as indicated by the numbers.

escaped from the lacrymal canals. The patients who presented this symptom were both severely injured. The cases were as follows:—

A man aged forty, admitted to St. Thomas's in 1888. He had been drinking heavily, and was supposed to have fallen against a chair. He had received a severe contusion of the right eye, the conjunctiva was suffused with blood, and there was interference with the action of the internal rectus; some blood was trickling from between the eyelids of the left eye. His pulse was very weak, and he had been vomiting. On the fifth day there was proptosis of the right eye, with chemosis of the conjunctiva. He had suffered from headache since admission, and on the sixth day the edges of the right disc were indistinct, but the vessels clear. On the eleventh there was still no action in the internal or inferior recti muscles. Bleeding from the eyes was also seen in a boy nine years old, suffering with bleeding from the ears and nose, due to head injury. He died, and a fracture in the posterior and middle fossæ was found on the side opposite to the eye from which the bleeding came.

Another not infrequent and most important sign when present is the discharge of a watery fluid from the ear or from the nose, and sometimes from the vault of the skull in severe injuries of that part accompanied by fracture of the bone. According to Robert this symptom was noticed for the first time by Stalpartius

[6] Science and Art of Surgery, vol. i., p. 734, 11th ed.

Van der Wiel[7] about 1727. The case (which presents much historic interest) in which it was observed was that of a woman who had received a blow from a stick over the left parietal bone. She lost such a large quantity of watery fluid from the ear during the four or five days which followed that it was computed to amount to 300 grammes a day. She recovered rapidly on the cessation of the discharge. Van der Wiel also refers to a patient, a prince, under the treatment of Langelottus, who had fallen fourteen feet on his head. As the patient suffered very great pain, it was proposed to trephine him, when it was noticed that there was a free flow of fluid from the ear and the operation was abandoned. O'Halloran[8] saw a patient in consultation about whom he wrote in 1760: "There also constantly oozed out of the right ear, and immediately after the accident, a clear limpid water, which might at least amount to the quantity of twelve ounces in the twenty-four hours, and which ceased not till his death." Medical progress has often been delayed by the refusal of friends to permit a post-mortem examination to be made, and it was so in this instance; hence the observation goes no further, for the fluid was not analysed. It was not until 1835 that a French surgeon, Laugier,[9] showed that this discharge of watery fluid from the ear was associated with a fracture of the petrous bone and a rupture of the membrana tympani in at least one instance, and many observations since then have proved the general truth of the statement. When this point had been decided, the question arose as to the nature and source of the fluid which came from the ear, sometimes in amount sufficient to drench the pillow of the patient in the course of a few hours. Laugier himself ultimately came to the opinion that the fluid was derived from the clot of blood resulting from the fracture and situated between the dura mater and the bone, also from the lacerated bloodvessels which were on the surface of the broken bone and in the surrounding soft parts. He also considered that the presence of this flow of clear fluid indicated a *fissured fracture* of the *base* of the skull and the presence of a *blood-clot* over it. These views are interesting, as they appear to have been the first given to the world founded on the result of dissections in fatal cases; but, as pointed out by Robert,[10] the proportion of blood found over the seat of fracture was not in keeping with the amount of supposed discharge from it. An analysis by Chatin revealed the presence of less albumen and an amount of chloride of sodium far in excess of that met with in the serum of the blood. Chassaignac (1850) thought that it was derived from the blood contained in the sinuses of the base through rupture or fraying of their walls. Marjolin[11] considered the lining membrane of the labyrinth to be the source, and Guthrie (1842) the cavity of the arachnoid. Bérard and Nélaton[12] suggested that it might be due to the escape of the cerebro-spinal fluid, and Robert proved that in many instances this is so. I say in many instances because it has been proved that watery fluid to a very considerable extent may flow from the ear, and there may not be any fracture found even on the most careful examination of the petrous bone. I have not been able to find any instances which illustrate this statement better, or which are founded on better evidence, than those which rest on the authority of Mr. Gray and Mr. Holmes. These are well known, but the fact is important, and I must briefly refer to them.

Mr. Gray communicated to the Pathological Society[13] the account of a man under the care of Mr. Cutler in St. George's Hospital, who, after an injury to the head with a small scalp wound on the right side, had a considerable and long-continued discharge from the ear. Seven days after admission he died from diffuse inflammation of the areolar tissue of the scalp. The discharge from the ear, varying somewhat in quantity, continued from the time of his accident, when it was mixed with blood, until the day previous to his death, and it saturated the pillow-case, but although repeatedly collected does not appear to have been analysed chemically. At the necropsy, there was a fracture of the occipital bone on the right side with some comminution, and another to the left of the foramen magnum, extending from that to the back part of the left jugular foramen. The tube of arachnoid membrane which accompanied the seventh pair was quite normal, but a minute quantity of blood was found in the subarachnoid tissue surrounding the nerves. The cavity of the tympanum was full of a thick, tenacious, muco-purulent secretion, and a similar secretion was found at the tympanic orifice of the Eustachian tube and also in the mastoid cells. The lining membrane of the tympanum and parts communicating was intensely vascular. The membrana tympani was ruptured.

Mr. Holmes' patient was also an inmate of St. George's Hospital. He was admitted with bleeding from the ear, which was followed by a copious watery discharge. When examined after death the most careful search discovered no fracture in the petrous bone and no injury of any kind to the cavity of the tympanum or internal ear The discharge was dependent upon fracture of the lower jaw just below the condyle, the lower fragment having perforated the wall of the meatus auditorius. In the former case the fluid appeared to have been derived from the mucous lining of the middle ear and its accessory cavities, and in the latter from the wounded meatus, possibly also from the lining membrane of the articulation of the jaw. Although there are many statements with regard to fractures in the temporal bone made by Dr. Buck, in his article on Injuries and Diseases of the Ear in the International Encyclopædia of Surgery,[14] with which I cannot agree, there is one which seems a very good suggestion with regard to some of these watery discharges. Speaking of fracture, with laceration of mucous membrane in the ear and rupture of the membrana tympani, he says: "Such a laceration of the parts is sure to be followed by inflammation, and this inflammation will be proportionate to the degree of damage done to the parts. A profuse and sometimes long-continued watery discharge from the middle ear by way of the external auditory canal is a well-known characteristic of an ordinary non-traumatic acute inflammation of the middle ear, provided that an opening has been established, either by natural or by artificial means, in the membrana tympani," &c. In many instances, if poured out in large quantities so as to permit of examination when free from discolouration by blood, the watery discharge will be found to have the same limpid, clean appearance as the cerebro-spinal fluid, but occasionally has a higher specific gravity (in one case it was 1013), abundance of chlorides, a very small amount of albumen as indicated by the usual tests, merely enough to produce a whitish opacity, and a trace of some substance which for a long time was regarded as sugar, but which Dr. Halliburton identifies with pyrocatechin. This substance reduces Fehling's solution, but does not answer to some other tests for sugar. The flow may be accelerated, as Hilton proved, by increase of the intra-cranial vascular pressure, produced by compression of the jugular veins whilst the nose and mouth are covered; and it may be increased by coughing or other strain, as in patients who were under observation in St. Thomas's Hospital. The quantity of this fluid that may be collected is occasionally very large; sometimes, running from the ear in a continuous stream, it saturates the pillow and bedclothing. In the following case, during the course of five hours, this amounted to three pints, and, as the flow continued for ten days without ceasing, the quantity which came away during that time was, indeed, enormous. The symptoms which ensued when the excessive loss at last stopped are interesting, as well as the almost complete absence throughout of serious mental disturbance.

A carpenter aged twenty-five was under the care of Sir W. Mac Cormac in 1885.[15] A short time before he had been knocked down by a plank, which had fallen on the back of his head, and had rendered him insensible for ten minutes. He bled profusely from the right ear. On admission not long afterwards there was a red mark on the back of the head where he had been struck. He was quite conscious, complaining only of a headache. There was very considerable discharge from the right ear of a watery fluid tinged with blood. His temperature was 95·8°. He had severe vomiting, which only ceased on the following morning. Next day the temperature in the morning was 98·8°, and in the evening 101·8°. The discharge from the ear continued profusely, and the flow was markedly accelerated by any straining. On the third day he complained of a splitting headache. His tongue was furred and white, and the temperature rose from 101·4° at 2 A.M. to 104° at 8 P.M. On

[7] Observ. Rar. Cent. Prior., obs. xv., Leyden, 1728.
[8] Injuries of the Head, p. 120.
[9] Comp. Rend. de l'Acad. des Sciences, 1839, p. 140.
[10] Mém. de la Soc. de Chir. de Paris, tome i.
[11] Dict. de Méd., tome xxix., p. 570.
[12] Compend. de Chir. Pratique, tome xi., p. 591.
[13] Path. Soc. Trans., 1854, p. 25, vol. vi.
[14] Vol. v., p. 351
[15] THE LANCET, vol. ii. 1886, p. 211.

the fifth day the discharge from the ear was continuing to such an extent that the pillow became saturated, and during a period of two hours and a half no less than one pint and a half of this fluid, having a greenish tinge, and giving the chemical reactions of cerebro-spinal fluid, was collected. On the sixth day the headache, which was chiefly occipital, had become slight. He was much improved and quite intelligent. The fluid was flowing less freely; it was clear and limpid. Then deafness was noticed; he could only hear a watch on contact. On the ninth day he could sleep without a draught of chloral, but the discharge from the ear only ceased in the afternoon of the eleventh day, the temperature being as high as 103° in the evening. He was not so well after the discharge ceased; there was much headache and pain in the back of the neck and flushing of the face. The headache was very severe, making him cry out with the pain. He became delirious and noisy. The pupils continued equal, and acted well to light. He continued ill for two days, then improved, the headache ceasing except when he moved; any sudden movement immediately brought it on again. The day after the cessation of the discharge from the ear the ophthalmoscope revealed a peculiar rosy appearance of the fundus oculi on both sides, without evident dilatation of vessels. After this he only complained of dizziness for a few days when he bent forwards. The man was under observation for fifty-five days, and no further symptoms developed.

Sir Prescott Hewett,[16] who has done much for the surgery of this part of the body, divides these cases into three classes: 1. Where the fluid from the ear is plentiful and of a decidedly watery character immediately after the accident, this flow is due to the escape of cerebro-spinal fluid, as a consequence of fracture of the petrous bone implicating the internal auditory canal and its membranes. Three cases amongst those which proved fatal come under this heading. In two the fracture extended *into* the internal auditory meatus, and during life was accompanied with evidence of facial paralysis on that side. In a third case the fracture extended *across* the meatus internus. 2. Where the watery discharge from the ear is preceded by copious and prolonged hæmorrhage, a fracture of the petrous bone may be safely diagnosed, but it cannot be said that the fracture follows any particular course. Five of the fatal cases presented this sequence of the discharge, and in all there was a fracture of the petrous bone; in one the internal auditory meatus was involved and the facial nerve torn. 3. Where there is a discharge of blood only, neither copious nor prolonged, which is followed by a watery discharge, varying as to the time of its appearance, varying also as to its quantity. It may be present within a few hours after the accident; it may be profuse within a few hours after its appearance. These are the cases in which it has been proved that the diagnosis is doubtful. The fact that too much reliance should not be placed on this symptom is illustrated by the case of one patient, a child aged three years and a half, who was under observation; the discharge followed slight hæmorrhage from the left ear, and continued for two days in no great quantity. After death, which occurred on the third day following the injury, although there was a fracture in each fossa of the base, including the middle fossa on the left side, it did not involve any part of the auditory apparatus.

I am of opinion that more reliance should be placed on chemical analysis of watery discharges from the head. If these show on examination the presence of a large amount of chlorides, and give the sugar reaction to Fehling's solution, then we may say that there is a fracture and communication with the subarachnoid space through a tear in the tubular prolongation of the membranes which surrounds the facial and auditory nerves. And this applies although there be some albumen from admixture with serum, blood, or secretion from the ear. Sometimes, however, the watery discharge is not in quantity sufficient to permit of its being collected, and of our applying the usual tests to it. We must then, I think, be guided by the amount of the hæmorrhage as to the presence of fracture, and the onset of facial paralysis or deafness, dating only from the injury as to its extension into the internal auditory meatus and subarachnoid space. An interesting feature of the injury to the head which was sustained by Emin Pasha during last year, as reported in the daily press, was the recurrence of a watery discharge after it had ceased for a time. This was noted in two patients who were in St. Thomas's Hospital: A man aged forty-five, admitted unconscious, with tolerably large quantities of blood flowing from the left ear. Slight watery discharge followed, which, however, ceased in a day or two. He suffered from signs of serious cerebral injury, but had no further discharge from the ear until the eighteenth day, when a yellowish clear fluid commenced and continued to flow for seven days. The second patient was a man aged sixty-four, admitted with hæmorrhage from the left ear, followed by a thin discharge for two days. This recommenced on the sixth and continued till the fourth day afterwards.

A case somewhat resembling the one which I have read, in which there was an excessive flow of fluid from the ear, which also illustrates the recurrence of the watery discharge, has been recorded by Dr. Campbell. The patient died comatose on the fourth day after the return of the discharge. The fracture had passed through the internal auditory canal, but there was no evident cause for the fatal coma. Sir Wm. Savory had a patient under his care in 1861 who had watery discharge from both ears which lasted for nearly a month. The patient, a boy aged thirteen, recovered. This is the only example that I can find of watery discharge from both ears. Sometimes the flow of either blood or watery fluid from the ear will be observed to pulsate; occasionally small air bubbles are seen in it.

As regards the influence of age on the occurrence of these watery discharges, it appears, from a consideration of those cases from which my statistics are taken, that, if all in whom watery discharges of every kind occurred are included, of those surviving thirteen were below and fourteen above thirty years of age. Of those in whom the injury proved fatal, five were below and four above that age, this average corresponding fairly with the ratio of fracture at the various ages of life.

AGES IN YEARS.

	Under— 5	10	20	30	40	50	60	70
Recovered	—	2	4	7	7	4	2	1
Died	2	—	—	3	2	1	—	1

That is to say, that out of thirty-six cases presenting this phenomenon one-fourth died, although in none of the nine fatal cases could it be said that death ensued in consequence of the opening up of the subarachnoid space, yet in one the fracture of the petrous bone gave opportunity for purulent infection of the meninges, which caused death. Robert looked upon this symptom as of extremely bad augury; indeed, he writes of it as follows: "Up to the present, in fact, one has not been able to save any of those who have presented this symptom." The seven patients under his observation died, and he cites another case under the care of Marjolin. Colles, in his lectures, says that he has seen such cases recover, but regarded them as mostly fatal.

The idea suggests itself that perhaps the changed conditions under which such cases come nowadays when admitted to our hospitals and infirmaries may have much to do with the better prognosis now given in those injuries which are accompanied by watery discharges from the ear. The greater care which is taken in cleansing not only the patients but also the wards, the employment of efficient ventilation and the use of antiseptics, the rare occurrence of suppuration in wounds, the almost complete banishment of pyæmia and erysipelas, and the transfer of the latter to a special ward should it unfortunately arise, are things which must be taken into consideration. But, in spite of these improvements in the surroundings of our patients, suppuration occasionally follows hæmorrhage or watery discharge, and the prognosis becomes correspondingly increased in gravity. For example, I may quote briefly the following cases which were treated in St. Thomas's Hospital. A man aged twenty-five was admitted with bleeding from the left ear; this was followed by clear watery discharge, which became purulent, facial paralysis ensued, and he suffered from occasional headache during a residence which lasted thirty-five days. A man aged forty-one came in suffering from severe injury to the head; much hæmorrhage from the left ear, nose, and mouth. The hæmorrhage from the ear continued for three days, giving way on the fourth day to a purulent discharge, which corresponded to the onset of considerable inflammatory swelling over the left side of the face and neck. A youth aged eighteen, admitted with much bleeding from the left ear, which diminished in quantity and became serous, then watery in appearance.

[16] Loc. cit.

About the eleventh day there was a rise of temperature to 101·6°, and two days later a discharge of purulent character from the ear. The membrana tympani had completely disappeared when he was examined with the speculum. Occasionally the suppuration becomes more extensive and may produce a condition for which operation will be required. Of this the following is an example. On March 13th, 1883, a man aged thirty-seven, who had fallen from a cart on a macadamised road and struck his head, was admitted under the care of Sir W. Mac Cormac. He had immediately become almost insensible, but soon answered "Yes" and "No." There was bleeding from the mouth and from the left ear. When seen five and a half hours later he was very restless and roused with difficulty, answering in monosyllables when shouted at. There was bleeding only from the left ear; the pupils were normal; the breathing not stertorous. There was no external wound or sign of fracture of the vault. At 10 P.M. he was very restless, sitting up in bed and trying to get out; the temperature was 100·2°. On the 14th he was quieter. Bleeding from the ear continued. The temperature in the morning was 101·4°, in the evening 102°. On the 16th at 8 A.M. consciousness returned. Ecchymosis had appeared over the left mastoid process, and was extending backwards. On the 18th he recognised his mother, but was restless and made attempts to get up. Three days later he was unable to answer questions put to him, but was quieter. On the 28th ophthalmoscopic examination revealed evidences of a neuritis passing off. He was still strange in his ideas. There was no albuminuria. On the 29th the discharge of a thin, clear fluid continued from the left ear, and on the 30th there was pain behind that ear. On April 10th the discharge had become sero-purulent, and there was tenderness over the mastoid as well as pain. On the 15th and 16th the tenderness had become more marked, and there was considerable pain extending from the vertex to the back of the ear. The discharge from the ear had become purulent. There had been no rigors, but the temperature had been 101·8° for two evenings. Slight facial paralysis, which had been observed during the first week after admission, gradually subsided about this time. On the 17th he had slept badly during the preceding night, and his temperature had risen to 102°. For four days before the 21st there had been considerable swelling behind the left ear, extending upwards nearly to the top of the head, with ill-defined œdematous margins, and on that date fluctuation was evident behind and around the ear. There was much tenderness and a good deal of pain over the swollen area. The temperature during the four days had varied from 100·4° to 103·2°. His pulse was 88. Sir W. Mac Cormac made an incision behind the ear into the fluctuating swelling and evacuated a large abscess. Under the incision the bone was found to be bared, and a fissured fracture ran upwards and backwards across the exposed area. Through this pus exuded, and a trephine applied behind it gave escape to more pus. Antiseptic precautions were taken during the operation, and in the evening the man expressed himself as relieved. On the 23rd there was much discharge from both ears and wound; the temperature became normal, and continued either normal or subnormal during the remainder of the patient's stay in hospital, with one exception, when there was increased discharge from the ear and a swelling in front of it. This subsided quickly, and he had no further symptoms. He was under treatment in hospital for seventy-three days, and left apparently well.

Mr. Bryant[17] had a very similar case under his care. A woman aged twenty-four was admitted with profuse hæmorrhage from the ear, which became watery on the third day and purulent on the seventh. She had suppuration over the mastoid on the tenth day. This was incised, and a month after the accident necrosed bone was removed from the mastoid. Facial paralysis afterwards developed, and became complete.

Another source of infection and a most dangerous condition for the patient is the presence of otitis media of old standing, or the existence of some septic purulent discharge from the ear before the injury to the head, whether that injury be followed by simple hæmorrhage or by hæmorrhage and then a watery discharge. These results are illustrated by few cases in our literature. Of two cases, in the first there were many symptoms present which make it of interest beyond the occurrence of purulent discharge from the ears, and it is worthy of note that several of the more distant fractures suppurated, probably in consequence of the extremely low condition of health of the boy and the vital depression following such an extensive and severe injury to the head, and not from pyæmic infection. This case has already been published.[18]

The second instance was that of a little girl aged one year and nine months, who was admitted under the care of Mr. Croft on March 13th, 1882, twenty minutes after having been run over by a carrier's cart. She died of meningitis a fortnight after admission, and a week after a purulent discharge had commenced. The left occipital bone was fractured, and the left petrous bone loosened from its connexions with the occipital and sphenoid bones. Between the left petrous bone and the dura mater was a considerable quantity of *altered* blood, granular and semi-solid. The dura mater was inflamed and had a layer of pus on its internal surface, but this occurred only here and there on the left side. The pia arachnoid was acutely inflamed and thickened, with lymph and pus over the base and whole of the left hemisphere, and also to a much more limited extent over the right. The ventricles were slightly distended, and the fornix and corpus callosum were much softened.

The attention of the profession was first drawn to the fact that watery discharges occasionally come from the nose after head injuries by Blandin, who reported a case in 1840, that of a man aged thirty-two, who had shot himself with a medium-sized pistol, the bullet of which had lodged in the sella turcica, destroying part of the pituitary body. "There flowed from the nostrils a quantity of bloody serum truly enormous." M. Robert recorded another case five years afterwards, and proved the identity of the fluid with the cerebro-spinal, and the necropsy showed a fracture of the sella turcica and laceration of the overlying dura mater and arachnoid covering the anterior lobes of the brain.

I have only met with discharge from the nose twice after severe head injury, and its importance and character were very doubtful in the first of these, a boy aged thirteen, who was under the care of Mr. Sydney Jones. He was admitted on Jan. 4th, 1882, and continued insensible for an hour and a half. The accident, a fall from a cart, had happened twenty-four hours earlier, and he was still vomiting. Hæmorrhage from the right ear continued for a day, and there was a yellowish-white discharge from the right nostril, which continued when he was removed by his parents five days later. In the second it is possible that there was a fracture of the petrous bone, implicating the internal auditory canal, but without rupture of the membrana tympani. The character of the fluid, the deafness and noises in the ear, point to this explanation. A man aged twenty-five was admitted in 1886 under the same surgeon. Having fallen 14 ft. on his head he was unconscious for awhile, and when admitted an hour later there was a large scalp wound, and there had been epistaxis. On the next day there was subconjunctival ecchymosis of both eyes, with contusion of the eyelids. On the fourth and fifth days he complained of noises in the left ear, and on the sixth it was noticed that there was a discharge of a few drops of clear watery fluid from the left nostril. Some of this was collected. It was clear, with a yellowish tinge, slightly alkaline reaction, a trace of albumen, and marked proportion of chlorides. On the eighth day he had had a good deal of headache during the night, and, on raising him up to dress him, some clear fluid resembling that collected on the sixth day again ran from the nose; it was not coagulated by heat or nitric acid, contained a large proportion of chlorides, and a trace of albumen. He was quite deaf with the left ear, even when the watch was placed against the mastoid process on the left side of the forehead. He complained of a rumbling noise in the ear, and occasionally of singing in the ear, and was deaf when dismissed after forty-four days' residence. Foucard[19] recorded a case in which a fracture of the base of the skull was accompanied with the flow of a watery fluid from the left nostril only, and Malgaigne[20] another in which a free discharge took place from both nose and ear.

Writing on the subject of nasal discharge after injuries which had been supposed to produce fracture of the base of the skull, as indicated by a discharge from the nose, M. Robert drew attention to the occasional flow of a limpid salt fluid, sometimes in considerable quantity, from the nose, independent of traumatism, and mentions a patient

[17] THE LANCET, vol. ii. 1884, p. 318.

[18] THE LANCET, vol. i. 1886.

[19] Journal de Chir. de Malgaigne, 1846, p. 315.

[20] Ibid., p. 283.

who could fill a wine-glass in the space of an hour, and saturated twenty-five to thirty handkerchiefs in the course of the day. He did not analyse the fluid.[21]

As I am chiefly concerned now with those fractures which involve the base of the skull, I do not purpose to consider the escape of cerebro-spinal fluid consequent on fracture of the vault. It may, however, be found under the scalp after a recent fracture of the subjacent bone, or later, forming a soft compressible tumour, over the site of the fracture. It flowed from the wound after a recent compound fracture of the skull, in which I found it necessary to remove fragments of bone from near the base, and in which there was a laceration of the underlying brain. It has flowed from the wound after trephining, and I have seen it coming in large quantities in cases of hernia cerebri in which sloughing of brain substance had opened up the lateral ventricle. Several instances of traumatic cephal-hydrocele have been shown at the medical societies during the last few years, but as a recent condition I have only seen it once, and that was in the case of an infant under the care of Mr. R. W. Parker at the Children's Hospital. The child presented a curious forcing outwards of the bones forming the posterior part of a fracture in the right parietal region, the result of considerable violence, and covering the fracture was a large soft fluctuating swelling, which pulsated.

Protrusion of the brain substance after an injury to the head which has caused a fracture of the base of the skull is an occurrence of very great rarity; in only one of the fifty-four cases of fatal injury is it recorded, and then it was through a fracture of the middle fossa. Indicating as it does a most severe injury to the base as well as to the brain, it is not surprising that such cases have usually had a fatal ending. There are, however, instances on record in which its escape from the ear or from the nose has been observed, and yet recovery, apparently complete in every respect, has ensued. I find an account given of the occurrence of the latter not followed by a fatal issue reported by Mr. Luther Holden—a compound fracture of the skull in a man of forty, in whom there was an escape of cerebral matter from the wound and through the nostril. The fracture, extending over the margin of the orbit, had involved the frontal sinus, and thus allowed the escape of a portion of the brain through the right nostril on the day following the injury. Dr. Lockwood[22] reported a case in which a loss of cerebral substance from the ear followed a fall on deck. The patient recovered.

ABSTRACT OF THE

Croonian Lectures

ON

CEREBRAL LOCALISATION.

Delivered before the Royal College of Physicians of London,

BY DAVID FERRIER, M.D., LL.D., F.R.S.,

PHYSICIAN TO KING'S COLLEGE HOSPITAL, AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE.

LECTURE V.

IN resuming the consideration of the paths traversed by sensory impulses to the brain, Dr. Ferrier stated that there was clinical and pathological evidence to show that the sensory tracts ran in the fillet and formatio reticularis, and that they were continued through the tegmentum of the crus cerebri into the posterior part of the internal capsule. With regard to their subsequent course and the question of the localisation of a definite tactile centre, Dr. Ferrier reminded his audience of his earlier researches, in which he observed that tactile and painful sensibility seemed to be entirely unaffected in monkeys, notwithstanding the most extensive experimental lesions of every portion of the convex surface of the hemisphere, but that in several cases in which a post-mortem examination showed a more or less extensive implication of the hippocampal region (including the cornu ammonis and gyrus hippocampi) there was present impairment or abolition of sensibility on the opposite side of the body. Dr. Ferrier, therefore, tried to destroy this region with the cautery, by passing this instrument through the occipital lobe, with as little injury as possible, to the hippocampus. The superficial appearance of the lesion in one case, with the track of the sinus made by the cautery, have already been figured.[1] The result of this operation was total anæsthesia and analgesia of the opposite side of the body. There was no loss of motor power, but considerable clumsiness and incoördination, so that the animal's feet tended to slip off the perch when its eyes were closed. Dr. Ferrier also investigated this subject later in conjunction with Professor Gerald Yeo.[2] The mode of experimenting was, in the main, the same. Ten experiments were made, in five of which the hippocampal region was removed on both sides. The results entirely confirmed the previous observations, and the conclusions drawn were that "the various forms of sensation embraced under the term 'common, or tactile sensibility,' including cutaneous, musculo-cutaneous, and muscular, are capable of being profoundly impaired, or altogether abolished for the time, at least, by destructive lesions of the hippocampal region, and that the degree and duration of the anæsthesia varied with the completeness of destruction of the area in question." The subject was next taken up by V. Horsley and Schäfer,[3] but their early excisions were less extensive than those described above, and they were at first unable to corroborate Dr. Ferrier's results. In a later experiment, however, at which he assisted, the removal of one hippocampal region was followed on the next day by partial analgesia and complete insensibility to mere contact on the opposite side. Death unfortunately occurred on the second day, so that no conclusions as to duration were possible in this case. In a second experiment the hippocampal region was again removed, and the incisions made so as to detach also the calcarine fissure and the hippocampus minor. This animal was profoundly anæsthetic on the opposite side, but there did not appear to be absolute analgesia. Tactile anæsthesia continued for several weeks without appreciable alteration, but a gradual improvement occurred, so that examination at the end of six weeks revealed only some degree of impairment, as evidenced by less easily excited attention by gentle pricking, rubbing, &c., of the side opposite the lesion as compared with the other. Severe pricking, pinching, or pungent heat, however, appeared to be well perceived. The gradual diminution of the anæsthesia induced by extensive if not complete removal of the hippocampal region led Dr. Ferrier to suggest similar experiments on the gyrus fornicatus, on the ground that the tactile centre might extend into the rest of the falciform lobe, of which the hippocampal gyrus is only a part. Subsequently Horsley and Schäfer experimented on the gyrus fornicatus, and proved the accuracy of Broca's anatomical view as to the unity of the falciform lobe, by demonstrating that lesions of the gyrus fornicatus caused similar symptoms to those produced by destruction of the hippocampal region, of perhaps even greater intensity and longer duration. In one animal the hippocampal region was removed on one side, and when the consequent anæsthesia had passed off the mesial surface of the brain was again exposed, and the gyrus fornicatus excised along the whole length of the corpus callosum. There resulted at first absolute anæsthesia and analgesia of the opposite side of the body, and at the end of six weeks there was still absolute anæsthesia; and, although the analgesia had diminished, it was still manifest in some degree. The animal was in perfect health, and exhibited no sign of motor disorder except slight transient weakness of the opposite leg immediately after the operation, owing to some injury of the parietal lobule and neighbourhood during the operations necessary to expose the gyrus fornicatus. In summing up their conclusions in their Memoir in the Philosophical Transactions, Professors Horsley and Schäfer conclude that "any extensive lesion of the gyrus fornicatus is followed by hemianæsthesia, more or less marked and persistent. In some cases the anæsthetic condition has involved almost the whole of the opposite side of the body; in others it has been localised to either the upper or the lower limb and to particular parts of the trunk, but we have not yet succeeded in establishing the relationship between special regions of the body and the parts of the convolution which have been destroyed. Moreover, the anæsthesia was frequently very pronounced and general during the first three

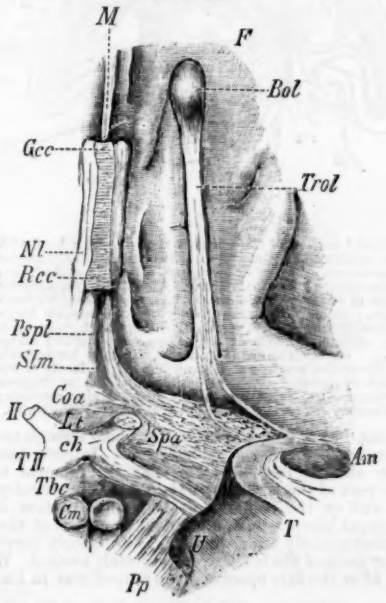
[21] See also the observations of Brodie and of Sir James Paget.
[22] American Journal of Medical Science, 1859, p. 254.

[1] Functions of the Brain, p. 329, fig. 105.
[2] Phil. Trans., Part II., 1884, Experiments 24 to 33, figs. 103-181.
[3] Functions of the Cerebral Cortex, B. 20, Phil. Trans., 1888.

or four days after the operation, but after that time this general condition would become gradually in great part recovered from, or more definitely localised in definite regions. In all cases, however, in which the diminution of sensibility was well marked during the first few days it has persisted, although with lessened intensity, for many weeks in those instances in which the animals have been preserved for so long." Accurate figures are given by these observers in the memoir, showing the amount of the convolution removed in each case. Evidence is not conclusive as to the existence of any altogether specialised centres in this general area. It is probable, however, that a certain degree of localisation may be established through the associating fibres which undoubtedly connect this region with the motor centres of the cortex.

It is probable that the partial recovery from unilateral lesions of the gyrus fornicatus is due to a bilateral representation of the sensitive parts of each side of the body, so that a certain amount of compensation may be effected by the falciform lobe of the other hemisphere. No scheme of the cortical representation of the sensory tracts can be

FIG. 26.



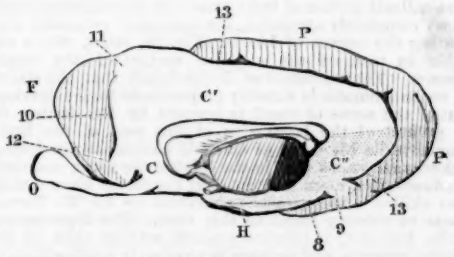
After Obersteiner. *Pp*, Pes pedunculi. *Cm*, Corpus mammillare. *Tbc*, Tuber cinereum. *TII*, Tractus opticus. *Ch*, Chiasma. *II*, Nervus opticus. *T*, Temporal lobe. *U*, Uncus. *Am*, Nucleus amygdalæ. *Spa*, Substantia perforata anterior. *Lt*, Lamina terminalis. *Coa*, Anterior commissure. *Pspl*, Pedunculus septi pellucidi. *Slm*, Sulcus medius subst. perf. ant. *Rcc*, Rostrum corporis callosi. *Gcc*, Genu corporis callosi. *Nl*, Nervus lancisii. *M*, Longitudinal fissure. *F*, Frontal lobe. *Bol*, Bulbus olfactorius. *Trol*, Tractus olfactorius.

admitted as correct which does not connect them with the cortex of the callosal and hippocampal convolutions. The experiments of France,[4] who found, apparently in connexion with lesions of the gyrus fornicatus, secondary descending degeneration in the crus cerebri and spinal cord, require confirmation. The gyrus marginalis was implicated in the injury, and the descending degenerations may have been due to this cause.

OLFACTORY AND GUSTATORY CENTRES.

The position of this centre may be inferred from the cortical connexions of the olfactory tract. In man and in monkeys the only constant connexion with the hemisphere is the external root, which passes outwards across the anterior perforated spot to the cortex of the hippocampal lobule, or anterior and lower extremity of the hippocampal gyrus. (Fig. 26, Trol.) In animals in whom the sense of smell is largely developed, there is also, in addition to a superior and middle root, a large inner root, which appears to fuse with the anterior extremity of the collosal gyrus. The connexion of the olfactory tract by means of its inner and outer root with the anterior and posterior extremities of the falciform lobe have been compared by Broca to a tennis racquet of which the circumference is formed by the falciform lobe, and the handle by the olfactory tract and bulb. (See Fig. 27.)

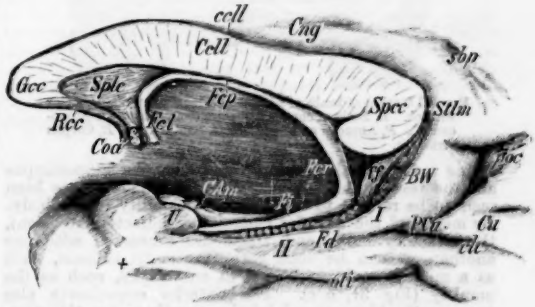
FIG. 27.



Inner surface of the right hemisphere of the Otter (Broca). O, Olfactory lobe. H, Hippocampal lobe. C, Commencement of the lobe of the corpus callosum. C, C', C'', Lobe of the corpus callosum. F, Frontal lobe. P P, Parietal lobe. 8, Limbic fissure. 9, Pli de passage rétro-limbique. 10, Subfrontal sulcus. 11, Pli de passage fronto-limbique. 12, Inferior fronto-limbic annectent gyrus. 13, Subparietal fissure.

Broca divides animals into "osmatics," animals whose powers of smell are highly developed, a group including almost all mammals; and, secondly, "anosmatics," in which the sense of smell is either feebly developed (as in man, monkeys, and amphibious carnivora), rudimentary (as in whales), or altogether wanting (as in porpoises). Dr. Ferrier showed from a series of brains of animals from each class that in osmatics the olfactory bulb and tract are large, and the hippocampal lobule in some animals is so highly developed as to constitute the greater portion of the cerebral hemisphere. In the anosmatics, however, the hippocampal lobule is relatively small, and almost completely absent in the porpoise. In the osmatics the hippocampal lobule is definitely marked off by an annectant gyrus, termed by Broca the *pli de passage rétro-limbique*.

FIG. 28.



After Obersteiner. *Cell*, Corpus callosum. *Gcc*, Genu of corpus callosum. *Coa*, Anterior commissure. *Fcl*, Columns of fornix. *Fer*, Crus of fornix. *CAm*, Cornu ammonis. *Tf*, Tuberculum fascia dentatæ. *BW*, Randwindung (splenial convolution). *I*, Isthmus gyri fornicati. *U*, Uncus. *PCu*, Pedunculus cunei. *Sbp*, Sulcus subparietalis. *ccc*, Fissura calcarina. *Rcc*, Rostrum of corpus callosum. *Spcc*, Splenium of corpus callosum. *Splc*, Septum lucidum. *Fcp*, body of fornix. *Fi*, Fimbria. *Fd*, Fascia dentata. *Stlm*, Stria longitudinalis medialis. *g*, Gyrus cinguli. *H*, Gyrus hippocampi. *Cu*, Cuneus. *ccll*, Sulcus corporis callosi. *poc*, Fissura parieto-occipitalis. *oti*, Sulcus occipito-temporalis inferior.

(See Fig. 27, 9.) The homologue of this in man and monkeys is usually considered to be the annectent gyrus connecting the cuneus with the gyrus hippocampi. (See Fig. 28, *PCu*.) The observations of Beauregard[5] on whales, and those of Zuckerkandl[6] on the dolphin, would assign to it a position just behind the uncus; and

[4] Phil. Trans., B. 48, 1889.

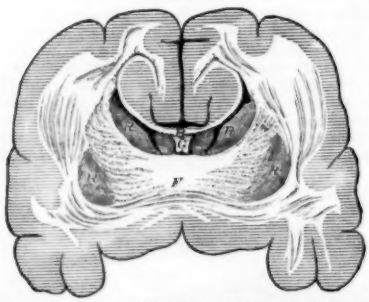
[5] Sur l'Encéphale des Balænides.

[6] Ueber das Riechcentrum.

Dr. Ferrier believes that in man its homologue is to be found in the annectent gyrus, connecting the uncus gyrus with the anterior extremity of the temporo-sphenoidal lobe. (Fig. 28, +.) It seems very possible that the connexion of the inner root with the callosal gyrus is apparent rather than real, and that it actually is connected with the anterior extremity of what Zuckerkandl calls the marginal gyrus (Randwindung), which forms the callosal margin of the falciform lobe, and is continuous posteriorly with the fascia dentata. (See Fig. 28, *Fd.*) The dorsal or supra-callosal portion of this gyrus is in anosmatic animals almost completely atrophied, the atrophied remnants constituting the nerves of Lancisi (Fig. 28, *Stlm*), which are visible in man on the superior surface of the corpus callosum. The statement of Zuckerkandl that the size of the cornu ammonis is directly proportional to the development of the sense of smell is opposed by Dr. Ferrier, on the ground of the large size of this part of the brain in man, while his sense of smell is comparatively feeble. Zuckerkandl states that in the dolphin the cornu ammonis is reduced to a mere remnant, but the recent observations of so skilled a comparative anatomist as Sir W. Turner appear to entirely negative this view. The hippocampal lobule, however, is relatively much smaller than in the osmatic animals, and perhaps is absolutely smaller than in many of them.

The conditions which lead to variations in the size of the hippocampus proper are not clear, but there appears to be an inverse ratio between the size of the gyrus fornicatus and the gyrus hippocampi. In osmatic animals generally, the gyrus fornicatus is relatively larger than the gyrus hippocampi (apart from the hippocampal lobule). In the kangaroo, the gyrus hippocampi and hippocampus merge with the gyrus fornicatus, and the hippocampus appears as the inrolled edge of this gyrus (see Fig. 29), indi-

FIG. 29.



Frontal section of brain of kangaroo (Macropus major). After Flower. *B*, Body of corpus callosum (connecting the hippocampi). *F*, Anterior commissure. *G*, Septal area. *R*, Corpus striatum.

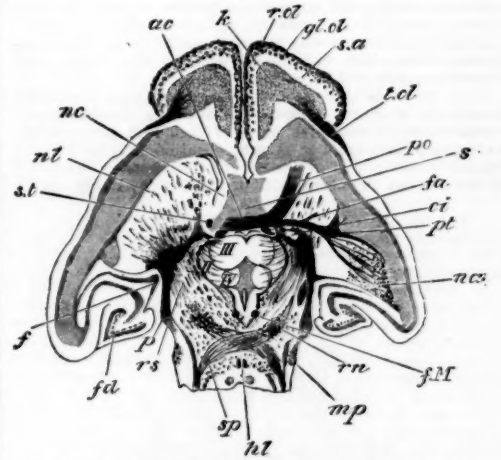
cating a functional continuity between the hippocampus and the rest of the falciform lobe, which latter has been seen to be related to the general sensibility of the body. By means of the anterior commissure (olfactory division), the olfactory bulbs and tracts are connected with one another, as can be seen both in osmatic animals, such as a mole (Fig. 30, *p o*), and in anosmatics, such as the monkey (Fig. 31, *a c*). The anterior commissure also connects the hippocampal lobules together; but this temporal portion of the commissure does not appear to convey olfactory impressions from one tract to the opposite hippocampal lobules, since extirpation of the olfactory bulb in young animals is not followed by atrophy of these posterior fibres.

Effects of electrical excitation of the hippocampal lobule.—These consisted in a peculiar torsion of the lip and nostril of the same side, exactly resembling the grimace caused by the application of a pungent vapour to the nostril. No similar reaction followed irritation of the exposed hippocampus, and from the uniformity of the results we may be more or less certain that subjective olfaction was aroused by stimulation of the hippocampal lobule only.

Effects of removal of the hippocampal lobules.—In Dr. Ferrier's earlier experiments he found that in several instances disorganisation of the lower temporal region on one or both sides was followed by indications of impairment or abolition of the reactions usually excited by pungent odours or disagreeable tastes. Schäfer and Sanger-Brown,[7] however, were unable to detect loss of the senses of smell or taste after destruction of the lower extremity of the temporal lobes on each side. Dr. Ferrier believed from the figures and description that the removal was incomplete, and therefore instituted fresh experiments in reference to this point.

In three animals the anterior lower portion of the temporo-sphenoidal lobes was removed on each side by successive

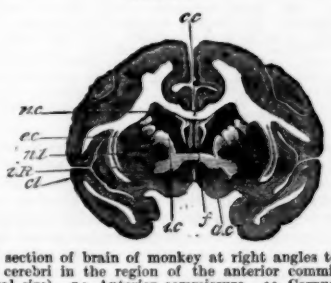
FIG. 30.



Horizontal section of the brain of the mole on a level with the anterior commissure (× 4). After Ganser. *ac*, Anterior commissure, dividing into *po*, pars olfactoria, and *pt*, pars temporalis. *ci*, Internal capsule. *f*, Fimbria. *fa*, Anterior pillar of fornix. *fd*, Fascia dentata. *f M*, Meynert's fasciculus. *gl*, *ol*, Glomeruli olfactorii. *hl*, Posterior longitudinal fasciculus. *k*, Granular layer of olfactory bulb. *mp*, Middle peduncle of cerebellum. *na*, Nucleus amygdalæ. *nc*, Nucleus caudatus. *nl*, Nucleus lenticularis. *P*, Pyramidal tract. *rn*, Red nucleus. *r. ol*, Roots of the olfactory nerve. *rs*, Regio subthalamica. *sl*, Septum lucidum. *sn*, Substantia alba. *sp*, Superior cerebellar peduncles. *st*, Stria terminalis. *t. ol*, Tractus olfactorius.

operations, but only one of them lived long enough to allow satisfactory observations to be made. In this case the necropsy showed (see Fig. 32) that the removal of the anterior part of the left temporal lobe was practically complete; and on the right side, although a portion of the hippocampal lobule is left in the neighbourhood of the crus, it is almost entirely undermined. The olfactory nerves and the other parts of the brain were absolutely normal. Within a week after the first operation the animal was in its usual

FIG. 31.



Frontal section of brain of monkey at right angles to the crura cerebri in the region of the anterior commissure (natural size). *ac*, Anterior commissure. *cc*, Corpus callosum. *cl*, Claustrum. *ec*, External capsule. *f*, Pillars of fornix. *ic*, Internal capsule. *i R*, Island of Reil. *nc*, Nucleus caudatus. *nl*, Nucleus lenticularis.

health and spirits, with no impairment of the special senses. It at once, either by smell or taste, according to circumstances, rejected food which had been drugged, while it eagerly devoured similar portions of food which had not been tampered with. The substance which was found to cause most disgust and aversion in monkeys when tasted

[7] Phil. Trans., B. 30, 1888.

or smelt was aloes, and this was the test principally employed.

After the second operation, when both hippocampal lobules had been destroyed, the animal was a little dull, and seemed disinclined to eat spontaneously, but it devoured greedily any food that was offered it, and showed no signs of disgust when pieces of food were given it copiously sprinkled with aloes, nor did it make any grimace when a pinch of aloes was placed in its mouth, but continued eating unconcernedly. On the eleventh day its condition was the same; there was no sign of disgust when the food offered it was copiously sprinkled with aloes or quinine. A pinch of colocynth placed in its mouth caused no sign of distaste; the same placed in the mouth of its companion monkey caused violent nausea. In order to associate the disagreeable taste of aloes with a very definite and strong smell, Dr. Ferrier mixed some musk with the powdered aloes. This, however, made no difference, pieces of food smeared with musk aloes being eaten quite as readily as others, and it would come and lick musk aloes off the blade of a knife as if it were something nice. Two months after the operation it still did not refuse to lick a finger smeared with musk aloes, and ate several pieces of apple smeared with the same, with which the other animals, three in number, would have nothing to do. It also licked up a quantity of sugar which

FIG. 32.

was copiously mixed with aloes. The quantity of the drug it ate not infrequently produced the usual medicinal effects. At the end of three months there were some indications of returning taste and smell, as shown in its selection of food, but only in a very slight degree. The high mortality among monkeys at the time of the influenza epidemic prevented these observations being carried further. In one of Munk's experiments on the visual centre he noticed that a dog, after bilateral destruction of the visual centres, seemed unable to smell pieces of meat &c. which were placed before it. It was found after death that the whole of the hippocampal gyri, including the hippocampal lobules, were converted into a thin-walled transparent cyst. Luciani[8] is also of opinion that the centre for smell is in the gyrus hippocampi. He thinks that each hemisphere is in relation with both nostrils, but mainly with that on the same side. With regard to taste, his experiments locate it also in the hippocampal lobule. In one dog in which he extirpated this region on the left side there was loss of smell in the left nostril and impairment of taste on the right side of the tongue.

Clinical and pathological evidence is at present scanty. The symptoms of hysterical hemianæsthesia would appear to indicate that the olfactory, like the other centres of special sense, are in relation with the opposite side, but the anatomical evidence does not favour this view. There are clinical cases which plead in favour of the direct relationship of the tracts and olfactory centre. A case has been recorded by Churton and Griffith[9] in which smell was impaired on the same side as the lesion—viz., a tumour which caused erosion of the uncinate convolution, but which did not directly invade the olfactory tracts. Cases have been recorded by Hamilton,[10] Worcester,[11] Hughlings Jackson, and Beevor,[12] in which olfactory auræ and crude sensations of smell were associated with lesions implicating the regions of the uncinate gyrus. Another case has been recorded by Dr. James Anderson,[13] although in his case the lesion was too extensive and indefinite to allow of any conclusions being drawn from it as to the exact position of the gustatory centre.

[8] Sensorial Localisations in the Cortex Cerebri, Brain, 1885
[9] Brit. Med. Jour., May 28th, 1887.

[10] New York Med. Jour., vol. xxxiv.
[11] Amer. Jour. of Insanity, July, 1887.
[12] Brain, October 1889. [13] Ibid., 1887, p. 385.

ANGULAR CURVATURE; RAPIDLY DEVELOPING PARAPLEGIA; LAMINECTOMY; RECOVERY.

BY W. ARBUTHNOT LANE, M.S., F.R.C.S.,
ASSISTANT SURGEON, GUY'S HOSPITAL, AND THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

I RECENTLY published a case of paraplegia[1] of some standing associated with spinal disease, in which, on removal of the several laminæ forming the angle of the prominence, the cord was found to be compressed between the body of one vertebra and the margin of the lamina of the adjacent vertebra. No evidence of tubercular material was present in the spinal canal, and the boy recovered completely from the paraplegic condition. Since that time up to the present I have only come across one case of paraplegia associated with spinal disease which seemed likely to derive great benefit from a surgical operation. I have, however, operated upon the spine in paraplegia associated with fracture of the column with advantage, which, though only temporary and partial, was sufficient to encourage me in continuing to adopt the same treatment in suitable cases.

The case of paraplegia due to spinal disease above referred to, and which I am about to describe, differs in many particulars from the one published last year. For instance, the paraplegia was developed with great rapidity, the loss of power of movement became complete within a few weeks of its first appearance, and the compression resulted, not from the rare condition of approximation of the lamina of one vertebra to the body of the other, but from the pressure exerted by a mass of tubercular material which intervened between the laminæ and dura mater. The condition of the parts found at the operation showed that any further delay in resorting to operative interference would probably have been followed by a rapidly fatal result. The following are the brief particulars of the case:—

H. M——, aged thirty-two, was admitted into Guy's Hospital under my care on March 20th, 1890. He was a commercial traveller. His family history was good. He had had pleurisy in 1887. Two years ago he noticed a pain in the middle of his back while running. This pain remained localised at the same point for a time, but later it extended to the left hip. He regarded it as lumbago. Six months afterwards he noticed a prominence in the spine, which was treated as a ganglion. This soon developed into an angular curve, which continued to become more sharply angular at this point. While walking home on a snowy day, three weeks ago, he noticed for the first time that his right leg was weak and somewhat numb, and that his toes were inclined to catch as he drew his foot forwards. On admission he was found to be a delicate man, with hair rapidly becoming grey. There was a very sharp angular curve, its apex corresponding to the spine of the tenth dorsal vertebra. His right leg lay motionless in bed, the foot being extended and adducted by the contraction of the muscles of the calf. The resistance offered by these muscles prevented the foot being flexed to a right angle. When flexed as much as possible the patient could extend it slightly by means of the flexor muscles. He could not flex the knee, but if the knee were placed in a position of flexion he could

[1] Brit. Med. Journ., April 20th, 1889.

forcibly extend it; he could also adduct the thigh upon the pelvis. He could not voluntarily contract the extensor muscles of the leg. He did not notice any loss of power of the left leg, but there was some apparent paresis of the extensor muscles of the leg. The patellar reflexes were much exaggerated on both sides, and ankle-clonus was also present. A depressed patellar reflex could be obtained on the right side. The plantar, abdominal, epigastric, and cremasteric reflexes were absent on both sides. There was impaired sensation on both sides, extending up to the inguinal region.—April 9th: His symptoms had progressed steadily since his admission on March 20th. Anæsthesia and analgesia were almost complete on the right side up to the distribution of the ilio-inguinal and hypogastric nerves; above this sensation was impaired for an interval. The loss of sensation on the left side was very considerable, yet not so marked as on the right. The patient was then able to adduct the right thigh only very slightly when it was placed in a position of abduction, but could produce no other voluntary movement in the muscles of that limb. He could adduct the left thigh and extend the knee-joint if the latter was flexed for him. Otherwise he had no voluntary control over the muscles of the left leg.—On April 19th some slight power of adduction of the left thigh remained. Analgesia existed over both legs, also anæsthesia to moderate stimuli, but at places he could feel a forcible pinch as a gentle stroke. Ankle-clonus was marked on both sides, but especially on the right. The knee-jerks were marked. Plantar reflexes present and marked on both sides. — May 2nd: He had completely lost power over both of his lower extremities. There was analgesia on both sides, and what ordinary sensation was left was very slight. The superficial and deep reflexes were more marked than on the last observation, and it had become possible to obtain an epigastric reflex on the right side. A few days later the epigastric reflex could be obtained on the left side. During the whole of this period his temperature had been normal, with occasional trifling variations. On May 13th he was put under chloroform and the soft parts were turned off the laminæ and spinous processes of the ninth, tenth, and eleventh vertebræ. These were removed with bone forceps, when a large mass of granulation tissue, resembling in appearance and structure tubercular synovial membrane, protruded. This contained in its centre about eighty minims of purulent material. The whole of the growth was removed, together with a small process which extended forwards to the right of the dura matral sheath. The mass seemed to be centrally placed, and, except for the presence of the narrow prolongation already alluded to, there was no evidence at the time of the operation that the right segment of the cord was more compressed than the left, though it would seem probable that at an earlier period this material was placed more to the right of the middle line. It could be scraped off the dura mater, which was quite intact and healthy. The wound was closed and two drainage-tubes inserted. These were removed on May 14th, on which day he said that his legs felt quite different. On the 16th he was able to move the left leg slightly, and sensation, both special and ordinary, had improved. He continued to gain power in both legs with rapidity, sensation apparently improving in the same proportion. Corresponding with the increase in power and sensation the reflexes became less exaggerated. During this period he suffered severely from cramps in his legs. At the present time, June 12th, he has lost his exaggerated reflexes, he has completely recovered sensation in the lower part of his trunk and in his legs, and he can move his legs freely and with much force. He is waiting till the spinal column has consolidated to be fitted with a suitable poroplastic support. Recovery has in his case been most complete.

St. Thomas's-street, S.E.

WATERLOW PARK, HIGHGATE.—The committee of the London County Council, for the parks and open spaces, has decided to distribute the garden produce in this park amongst the Great-Northern and North-Western Hospitals, the St. Pancras Workhouse Infirmary, the Convalescent Home, Highgate, and the Temperance Hospital, Hampstead-road. When the Council are in complete possession of the park, the kitchen garden will be abolished, and other improvements effected. The committee propose to contribute £1500 towards improving the St. Pancras-road Recreation Ground.

THE PATHOLOGY OF HAY FEVER.

BY J. B. BERKART, M.D.,
LATE PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASE OF THE CHEST.

CONSIDERED in themselves, the symptoms of the so-called hay fever present nothing peculiar or characteristic. They are, it must be admitted, in every respect identical with those of either simple coryza, or of the more intense inflammatory processes which affect the upper parts of the respiratory tract. That they are nevertheless distinguished as a special form of disease is entirely due to their supposed etiological factors. For, according to prevailing notions, all such morbid phenomena, if idiopathic in their origin, are essentially the result of "cold," and thus the common lot of humanity; but their parallel here in view occurs just at the hottest time of the year when the presumably dangerous abstraction of heat is obviously out of question; moreover, it is confined to, and periodically returns in, only a limited number of individuals who, as alleged, exclusively belong to the upper and the educated classes. Hence it has been inferred that there is a special predisposition, which exists only in the wealthy and the learned; and a special exciting cause, which is operative only in spring and summer.

Since attention has been directed to this seemingly curious complaint, a variety of theories has been proposed to account for its pathology; but as they are fully discussed in the several treatises on the subject,[1] it is needless to refer to them again. This much only may be stated, that the nature of the predisposition has apparently never been doubtful. As usually happens with what is unknown in medicine, it has been attributed to a disturbance of the nervous system, and such solution of the problem has all along been accepted as satisfactory. Opinions were divided only on the nature of the exciting cause; but on this also they are now unanimous in assigning it to the pollen grains in the air.

At first sight, there is indeed some evidence in favour of the current theory. On the one hand, it has been ascertained that, at the time when hay fever is prevalent, the atmosphere contains large quantities of pollen; on the other hand, the experiments of Blackley[2] have conclusively shown that pollen applied to the mucous membrane of the nose and to the conjunctiva produces considerable irritation, and consequently sneezing and lacrymation. In addition, there are the reports of cases in which certain individuals were seized with these symptoms in the presence, even unknown to them, of a bouquet of flowers or of a bunch of fresh hay; although some doubt on the alleged causation is not unreasonable, especially if it be considered, that the picture of a hayfield[3] and an artificial rose[4] are said to have had precisely the same effect. Still, granted all that has been claimed, there would hardly be sufficient grounds for establishing a special form of disease. As well might pathology be enriched with a "snuff fever" because a pinch of snuff acts more forcibly upon one individual than upon another.

However that may be, it is certainly carrying the inferences from the data above-mentioned to an unwarrantable length if it be maintained that the catarrh, which in the spring and summer affects the nose and the eyes, arises exclusively from the effect of pollen. In reality, no one inhales pollen pure and simple. Although present, as already mentioned, in considerable quantity, it is, after all, only a portion of the solid particles which at the time float in the air. Associated with it are living infusoria and algæ, bacilli, micrococci, mites, large quantities of spores of fungi, mycelium threads, woollen and cotton fibres, hair of animals, especially of field mice, pieces of wings of butterflies, skins of the larvæ of insects, pieces of grass blades, flour of potato and of rye, woody cells, pieces of quartz, finest pieces of roof-tiles, soot, pieces of iron and of stone, and various other substances according to the geological formation of the soil. Can it be seriously maintained that all these, if present in sufficient quantity, are indifferent to, and incapable of irritating, the mucous membrane of the nose and the conjunctiva? That they are

[1] Phœbus: Der typische Frühsommer-Katarrh, 1862. — Blackley: Catarrhus Aestivus, 1873, &c.
[2] Op. cit., p. 115–154. [3] Phœbus, op. cit., p. 31.
[4] J. N. Mackenzie: Amer. Jour. of Med. Science, January, 1886.

not so hardly requires a proof. The symptoms observed are consequently the collective effect of all the constituents of the air. Pollen may be, for aught that is known to the contrary, more irritating than any other of those particles on account of its structure and of its chemical composition, and some kinds of pollen may be more so than others; still, it possesses no vital properties, and can only act as a foreign body. But as each of those foreign bodies contributes its own share towards the final result, it would be manifestly inadmissible to credit the one at the expense of all the rest.

Thus one form of the summer catarrh of the nose and eyes is primarily a true dust catarrh, and as such, indeed, it has been described. Graeme,[5] himself a sufferer from the so-called hay fever, confesses that all kinds of dust produce in him at all times precisely the same distressing phenomena as those to which he is annually subject from May till the end of June. Blackley[6] twits him with a want of exactness and precision which should characterise inquiries of this kind; yet he is constrained to admit that "the common dust from the road" gave rise in his case also to his complaint; only he endeavours to minimise his experience by stating that it contained a few pollen grains, which, as a matter of fact, are never absent so long as vegetation is active.

Although the foreign bodies in the air are chiefly concerned in the production of the catarrh, still it is quite undeniable that the heat of the atmosphere also has a subsidiary influence. Just as the hands and the feet swell in warm weather, so does the mucous membrane of the nose become congested, and the state of fulness of its vessels powerfully aids the action of all irritants. The opinion of Bostock[7] and others that heat alone is the cause of hay fever is therefore far too exclusive.

The question, however, arises, whether amongst the numerous micro-organisms, simultaneously inhaled, there may not be some which in the altered circumstances of their existence acquire new properties and become pathogenic? Klebs[8] and Hajek[9] are inclined to attribute acute coryza to the action of a particular diplococcus. But the facts that in many cases of the so-called hay-fever the rain brings speedy relief tends to show that the cause is mechanical; for otherwise the washing of the air would not be so readily effective. On the whole, the nose does not offer very suitable conditions for the development of micro-organisms; it is not a good incubator, so to say. Firstly, there is the copious discharge which helps to remove offending substances; secondly, the number of micro-organisms is so great that there is no scope for the individual to thrive, the one choking the other; thirdly, the secretion contains too little organic matter; and lastly, its temperature, varying as it does with that of the atmosphere, is unfavourable for those who require one of a certain and constant degree.

Accordingly, that form of disease is observed whenever the air contains a sufficient quantity of dust; but, as Phœbus justly remarks, its prevalence cannot accurately be fixed by the almanac. As a rule, it is most frequent in spring, remains stationary in summer, and diminishes in autumn. Between the months of April and July the largest number of cases is met with, but many are seen in March and also in October. At the latter period occur "the after-accesses" of Phœbus, as also the autumnal catarrh, the rose- and peach-colds of American writers. A direct correspondence with the amount of pollen grains in the air does not, however, exist. Blackley had his attacks before the maximum quantity which he observed had been reached; and other cases are reported to have occurred long before grasses were in flower.[10] The appearance of the coryza depends entirely upon the state of the weather. When the surface of the soil has been sufficiently dried by the heat, so that the cohesion of its particles is considerably reduced, then a slight movement of the air suffices to lift them to the level whence the respiratory current is drawn. Obviously such conditions coincide with those peculiar to the hay season, to the first as well as to the later harvests. But the same effect is also produced by the cold dry winds in March and April, which are known to break up the soil. Conversely, in the winter when the soil is wet, the air is comparatively pure, and dust catarrh is rare. But this of course holds good only as regards the outer atmosphere, and does not apply to the domestic air in houses, where a state which naturally exists out of doors is artificially reproduced.

Although in many cases the catarrh lasts during the whole summer and autumn, still not unfrequently the acute symptoms abate, notwithstanding the persistence of their exciting cause. The relief thus obtained is due to the mucus, which forms a protective layer for the nasal mucous membrane.

The disposition to the so-called hay fever is much greater than the advocates of certain theories are inclined to allow. If, nevertheless, only a small number of those subject to that affection come under the notice of practitioners, it is because the attendant symptoms are annoying rather than distressing, so that advice is rarely sought. Moreover, with a large number of the sufferers, not necessarily all poor and illiterate, the fits of sneezing suggest a "cold," even if the thermometer stand at boiling point; and the consequences of the cold are patiently borne as inevitable. Those only whose sense of logic revolts, as it were, at such a diagnosis, especially those acquainted with a certain kind of literature, substitute for it the one of hay fever. And in formulating the current theory, that fact has been translated into—the predisposition being confined to the wealthy and cultured classes. But the matter assumes a different aspect if the clinical phenomena are interpreted, unfettered by preconceived notions. Then it will be found that—and there is no conjecture in the statement—severe forms of coryza are much more frequent in spring and summer than in winter. Billard,[11] without thinking of hay fever, has made the same observation, and mentions that French peasants are in the habit of attributing the frequency of the catarrh in spring to the rays of the sun. Geigel[12] has also noticed the greater proportion of his cases to occur in June, and Krieger[13] has arrived at a similar conclusion. Naturally, however, that disposition is of varying degree in different individuals, so that some are more actively and more persistently affected by heat and dust than others. A satisfactory explanation of this fact is at present impossible. The current theory that it arises from a disturbance of innervation only shows that the problem is as yet unsolved. The stories previously mentioned that the disease has developed itself at the sight of a picture of a hayfield or of an artificial rose are merely curiosities of science. Nor has Guéneau de Mussy in any way contributed to the elucidation of the point by suggesting a latent gout. The one tangible morbid condition, which seems to have some influence, is the anæmia of the patients; but what this really involves as regards the tissues, and in what manner they react in the face of any irritation, can be only matter of speculation. In the complex human organism there are subtle pathological states which, though they escape detection, yet render the one individual more vulnerable than another to external influences.

There only remains to be added that the eye symptoms are either the result of the direct deposition of dust, or of the obstruction of the lacrymal ducts. The affection, however, remains purely local, and does not extend to the contiguous surfaces. Dyspnœal paroxysms only occur when the patient is already asthmatic in consequence of the forcible expiratory movements in sneezing.[14] A great deal of discomfort may be occasioned when the secretion of the nose is pent up at the posterior nares, and by occlusion of the nostrils. The anatomical changes, so far as they are visible, consist merely of an inflammatory congestion of surface. But they invariably subside without permanent injury to the tissues.

(To be concluded.)

[5] THE LANCET, 1850, vol. i., p. 692 et seq.
[6] Op. cit., p. 20. [7] Medico-Chirurg. Trans., 1828, vol. xiv., part 2.
[8] Allgem. Pathologie, 1886, p. 326.
[9] Berlin. Klin. Wochensch., 1888, No. 33.
[10] Martin and Dechambre in Phœbus, op. cit., p. 43.
[11] In Krieger, Aetiolog. Studien, 1877.
[12] Vierteljahrsch. f. öffent., Ges. iii., p. 524 et seq.
[13] Op. cit., p. 237 et seq.
[14] Berkart: On Bronchial Asthma, 1889, p. 118 et seq.

TRAINED MALE NURSES.—On Saturday last, the annual meeting of the Hamilton Association for providing Trained Male Nurses was held at Park-street, Grosvenor-square. Surgeon-General Gordon presided. The report stated that satisfactory progress had in all respects been made during the past year, but, as the Association still required the aid of public generosity, further subscriptions were solicited.

POST-EPILEPTIC UNCONSCIOUS AUTOMATIC ACTIONS.[1]

BY WALTER S. COLMAN, M.B., M.R.C.P.,
REGISTRAR AND PATHOLOGIST TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, ETC.

IN a typical epileptic fit three distinct stages may be distinguished: (1) Sudden loss of consciousness, with or without warning; (2) convulsion, first tonic, and then clonic; (3) a longer or shorter period of continued unconsciousness, without convulsion. If a large number of cases be taken, we find great variation in the degree in which each of these stages is present. In some, for example, the convulsion may be severe, and the recovery of consciousness rapid; while in others, although the convulsion may be slight, the patient may remain in a state of unconsciousness for some time. Again, in the condition of petit mal, consciousness may not be lost, but may merely be "defective,' and the stage of convulsion may be slight, or altogether absent, and so on. The object of this paper is to draw attention to some special variations of the third stage, in which the convulsion has ceased, but consciousness has not been restored. I am indebted to Dr. James Anderson and Dr. Tooth for permission to quote several cases illustrating the different varieties. The duration of this stage, as is well known, is very variable. Frequently it is prolonged and so deep as to be spoken of as coma, in other cases it passes insensibly into normal sleep, and in others it is only momentary. As a rule, the patient lies perfectly still during this stage with all his muscles relaxed. Occasionally, however, without in the least recovering consciousness, the patient may perform automatic acts of great complexity. He may talk, run about aimlessly or in a fixed direction, and may become violent or even homicidal. This stage in these cases may last from a few seconds to several hours, and on recovering consciousness the patient has not the slightest recollection of what he may have been doing. Dr. Hughlings Jackson regards this condition as analogous to the paralysis of the affected limb, which is seen after epileptiform fits. He thinks that there is exhaustion of the "highest" (intellectual) centres in the brain, and that, in consequence, the normal control is taken off the lower centres. The condition is usually spoken of as the post-epileptic state. It certainly is subsequently to the convulsion, but should, strictly speaking, be regarded as the closing stage of the fit.

It is most important to bear in mind that these automatic actions may occur, not only after severe epileptic fits, but quite as frequently after minor seizures (petit mal) in which there may be nothing to attract the notice of anyone that there is anything the matter with the patient, who suddenly loses consciousness but does not fall, and immediately performs acts which are without reason, often grotesque, and not infrequently criminal. This is well illustrated by the following case. A clerk in the City, who had been attending at Queen-square Hospital for some years for epilepsy and petit mal, but who had never previously performed any automatic acts, was one day sent to a merchant's office where he had never been before. Almost immediately on entering he recollects experiencing his usual aura of an attack of petit mal, but remembers nothing further. It appears that he then pushed the merchant out of his chair, and sat down in it himself, displaced all the papers on the desk as if searching for something, got up without taking any of the papers, and abruptly left. He passed safely through the crowded City streets to his own office, and then only did he recover consciousness. He went back on his errand, but had the greatest difficulty in persuading the merchant, who had not noticed the initial attack of petit mal, that he had acted unconsciously. Had he taken any paper of value his story would almost certainly have been disbelieved, and he would probably have been unable to clear himself from a charge of wilful theft. These automatic actions may be roughly divided into certain groups.

Cases in which the patient merely talks.—In these cases there is rarely any coherent line of thought to be detected. Utterance is usually rapid and indistinct, and is extremely like that of a person talking in his sleep. Not infrequently there is some word or phrase which is repeated after each attack. One girl who used to have as many as eighty attacks of petit mal in the day, used to say, "Tsum, tsum, tsum" about twenty times, and then abruptly recover consciousness. A boy who had frequent fits used to repeat "Forty, market, corner, book" over and over for about a minute after each. In France cases have been described as "arithmomaniacs," epileptics who are usually of weak intellect and occupy themselves habitually with simple arithmetical calculations. At the close of a fit these patients will often propound some problem, such as the number of seconds in 1500 years &c.

Cases allied to somnambulism.—In one case actual somnambulism did occur after each nocturnal fit. The patient, a boy, was subject to slight fits during sleep, at the close of which he used always to get up, go to the window, open it and close it, and then return to his bed, without recovering consciousness at all. In another case a woman more than once got up and went out into the street in her night dress. On one occasion she was taken to the police-station on the supposition that she was drunk. Another, a man, used to get up after each nocturnal fit, put on his clothes, and return to bed with them on. If he did not find his own clothes he put on those of his wife. This patient used also to perform automatic acts after diurnal fits. He used to brush his clothes vigorously, and then "tidy" the table by sweeping anything that was on it on to the floor. Closely allied are those cases in which the patient walks about unconsciously after a diurnal fit (either severe or slight). One such patient, on several occasions, after an attack of petit mal, walked to a house two miles off which he had occupied three years previously, the present occupants of which did not know him. After a short stay he would go away, and not recover consciousness for some time afterwards. Another, who was going from the City to Islington, found himself on the platform of a suburban station to which he had no object in going. How he got there he has no recollection. In other cases (frequently spoken of as "procursive epilepsy"), at the close of the fit the patient suddenly springs to his feet and runs about at full speed, avoiding all obstacles. If restrained such patients may become extremely violent, as in a case which I have previously recorded.[2] In the case of another patient, whom I saw with Mr. Jago of Barnsbury, such attacks constituted seizures of petit mal. He frequently was seized with a sudden uncontrollable impulse to run at full speed, which he had to keep up for a minute or two.

Actions suggested by the feeling of malaise.—This feeling of malaise is adopted by Dr. Gowers, in his classical work on Epilepsy, as the explanation of those cases in which, at the close of a fit, patients commence to undress themselves, a proceeding which has given rise to unjust charges of indecent exposure or suggestion. Another of Dr. Gowers' patients used to climb up a dining-room table as if it were a flight of stairs. He regards both acts as the outcome of the patient's desire to go to bed.

Cases of so-called "kleptomania."—It is not at all uncommon for epileptic patients to transfer, without considerations of ownership, any articles which may be lying near them to their pockets. They appear to be guided by the proximity of the objects and not by their intrinsic value—a shaving brush, for instance, being selected quite as soon as a purse. One patient, who had been epileptic for some years, on one occasion had an attack of petit mal in an ironmonger's shop. He then placed a large coal-scuttle on each arm and deliberately walked out of the shop with them. There is usually no attempt to select articles, anything that is handy being stowed away. In this respect the epileptic "kleptomaniac" is widely removed from most of the "kleptomaniacs" met with in the police-courts.

Violent acts after epileptic fits.—These are frequently seen in epileptic patients in asylums, and are often the cause of their being placed under restraint. In these cases also the acts of violence may occur in attacks of petit mal, and may therefore be quite sudden, without any appreciable warning or apparent cause. Undoubtedly many murderous assaults have been committed in the post-epileptic state, without their automatic character being recognised. In one case under my observation a youth aged eighteen several times attempted to mutilate his genital organs after an epileptic fit, and on another he almost succeeded in doing the same

[1] A paper read before the West London Medico-Chirurgical Society, April 11th, 1890.

[2] THE LANCET, Oct. 12th, 1889.

to a younger brother. He was in consequence removed to an asylum.

Cases in which patients deliberately micturate. — This occurs in these cases, not as a part of the general convulsion, but as an apparently purposive act after an attack. Thus, Trousseau mentions a magistrate who on one occasion was observed to leave his court, go into the council chamber, micturate in the corner of it, and then return to his own seat without being at all aware of the action. A similar tendency was present in the case of a respectable girl, twenty years old, who came under observation recently. She had attended the hospital for twelve months for ordinary epileptic fits and frequent attacks of petit mal, consisting chiefly of sudden desire to pass urine. Usually the sensation had been transient, and she had been able to retain control over her bladder. On a recent occasion, however, when she was at a public entertainment, the attack of petit mal was of longer duration than formerly, and while in the unconscious condition she deliberately lifted her clothes, and began to void urine in public; and it was with the greatest difficulty that her friends prevented the authorities from handing her over to the police. Many other cases might be quoted, but the foregoing will serve to illustrate the kind of actions which may occur in the post-epileptic state. The frequency with which these phenomena followed attacks of petit mal impress the necessity of exercising great caution when called upon to give evidence in a police-court or elsewhere, as to the responsibility of a person for acts of this description. It is evident from these cases that it is not sufficient to exclude severe epileptic seizures, but a liability to petit mal must also be inquired for, and excluded, before it can be decided that criminal and other acts have not been involuntary epileptic phenomena. At the same time, the other extreme must be carefully avoided, that of regarding *all* acts of violence &c. in epileptic patients as involuntary. Partly owing to the social isolation which is so often their lot, and partly to the cerebral deterioration which so frequently occurs, these patients may become suspicious and irritable, and their moral sense may become much blunted. It must be borne in mind that in post-epileptic phenomena there is usually no motive for the act, and there is often something grotesque about it; and when an epileptic, otherwise in good mental condition, steals valuable or desirable things, or deliberately commits some act with the view of gaining some advantage for himself, one should be very slow to give evidence that such acts are involuntary and part of an epileptic fit.

Queen-Anne-street, W.

A COMPARISON BETWEEN DENGUE FEVER AND INFLUENZA.

BY F. M. SANDWITH, L.R.C.P.L.,
PHYSICIAN TO THE KASR-EL-AINI HOSPITAL, CAIRO.

BEFORE the epidemic of influenza is at all forgotten, it may be interesting to compare it with the only disease with which it would seem to have been nearly confounded. I do not think it would have occurred to all observers that the two fevers might probably be due to one and the same poison; but as their possible identity has been discussed before medical societies in Paris, in the columns of THE LANCET, and now again in medical circles in India, it is only natural that European physicians who have never seen dengue might wonder whether they had not lately had that rather vague disorder in their midst. But I have been interested in noticing in the published reports of various discussions on the subject that those medical men who had previous experience of dengue in French colonies and elsewhere were almost invariably among those who believed that the recent epidemic, although having some features in common with dengue, could not be regarded as a modified form of that disease, but was really influenza with pronounced nervous symptoms. Influenza in a mild form was present in Egypt during the first three months of this year, and was evidently the same disease which was then more seriously reigning in Europe. I propose now to compare this epidemic with the last outbreak of dengue in Egypt, which occurred in the autumn of 1887, and was reported fully in THE LANCET for July 21st and 28th, 1888. This may very likely have been a typical epidemic of dengue as seen in Egypt; but I then pointed out that there were many varieties of the disease, and that Egypt seemed to be blessed with a much less severe form than those previously reported from India, Aden, and the United States. Since then Staff-Surgeon Godding has reported[1] an obscure outbreak of dengue at Zanzibar, apparently brought there by an officer from Aden. He compares this outbreak with the details of my paper, and specially points out the difference between the pyrexia at Zanzibar and in Cairo.

Geographical distribution —Dengue has a well-known preference for sea coasts, or for the valleys of large rivers. Hirsch calls it a *highly tropical* malady, corresponding in some ways to yellow fever. If we disregard a few doubtful cases in Europe last winter, said to have been directly transmitted from Constantinople or the Piræus, dengue has never been heard of farther north than latitude 41° N., or than Philadelphia, Athens, Constantinople, and the south of Spain. Influenza spreads not only over a whole country without special affection for the sea coast, but is a typical instance of a true pandemic in its general diffusion over wide tracts of country, and indeed often over the greater part of the inhabited world. In the present generation influenza has several times visited places as far north as Iceland and the Faroe Islands, and everyone knows that the first cases recognised in Europe during the existing epidemic were at St Petersburg (lat. 60° N.) last October.

Season of year.—Dengue in Egypt has always (thirteen times) been first discovered in August or September, and has invariably disappeared about December, or the setting in of comparatively cold weather. But this affection for summer and the early autumn, which has been called the *dengue season*, is by no means peculiar to Egypt; on the contrary, dengue elsewhere invariably arrives in the summer, and vanishes suddenly, like yellow fever, directly there is a great fall in the temperature, or the cold weather sets in. An analysis of 125 epidemics of influenza, which ran their course independent of one another, shows us that this disease has a greater affinity for winter than for summer; for fifty began in the winter, thirty-five in the spring, twenty-four in the autumn, and only sixteen in the summer months from June to August. Dengue shows a decided preference for damp heat, while influenza seems specially to love damp cold, though when it is once started it is apt to travel everywhere irrespective of climate and season.

Sex, age, and race.—The two diseases are alike in not respecting any variety of human being, but they are both more merciful to young children than they are to adults. Dengue does not treat the aged with special severity, though it gives them no immunity; but influenza depends largely upon old patients for its chest complications and consequent mortality. Both diseases attack white, yellow, brown, and black Africans in much the same way as they do Europeans. It may be true that while strangers bring influenza to a port, they themselves remain to a noticeable degree "exempt, or almost exempt, from the epidemic" (Hirsch), but recent experience in Egypt did not show it.

The percentage attacked in dengue in a mixed population has often been in different epidemics 80 or 75 per cent. During the existing influenza, St. Petersburg suffered at the rate of about 66, Berlin about 33, and London possibly not more than 20 per cent., but we must wait to get anything like accurate statistics.

Contagion.—Influenza, like dengue, appears to attain its widest diffusion where the population is densest. They are both found to break out directly after sick persons from an infected country have reached places previously free from the epidemic, and moreover seem to spread from the neighbourhood of the first patients to the members of the family, and later on to the doctors who come oftenest into direct contact with the sick. The sudden and simultaneous appearance of the fever over a great area of population is to an equal extent in both the diseases under consideration an argument against communicability or direct contagion from one sick person to another. In both the complaints success seems to attend the efforts of those who keep rigorously out of sick chambers and contact with the sick.

Immunity from subsequent attacks, relapses, &c.—A second attack during the epidemic is possible in both dengue and influenza. Two and possibly three attacks of the latter occurred in Cairo in the person of an English doctor, who suffered severely from influenza in Scotland during the

[1] Brit. Med. Journal, Feb. 15th, 1890.

epidemic of 1848. Distinct relapses are common in dengue and rare in influenza; for it is hardly fair to count as a relapse the bronchitis, which seems rather a remission, if not a sequela or complication, of the original fever. Dengue would seem to confer no immunity against influenza; for the places in the Levant, Smyrna, the Piræus, Athens, Constantinople, Syria, &c., which underwent a raging epidemic of dengue last autumn, were by no means spared by the wave of influenza three months later, and it is noteworthy that in them the patients and the doctors believed the second disease to be quite unlike the previous dengue. The two fevers are alike in that they are both unfortunate enough not to be always recognised when they first break out. This dengue outbreak in the Levant puzzled many for a time, and was eventually diagnosed in one of the places I have mentioned by a visitor from here, who is well acquainted with the Egyptian form of dengue. Moreover, the outbreak was reported in Europe, too literally from the Greek newspapers, as *deggeia*, and so threatened to mislead again. Since we have been told by an authority that an influenza wave is often followed by cholera, we who live within the cholera zone must be on the look out for it. But we may take comfort by remembering that influenza has occurred some forty times during the last hundred years, whereas there have been during that time only five pandemics of cholera. If we take the first of these as a type, we find that the cholera wave spread from India in three directions over a territory of nearly 100° of longitude and more than 67° of latitude. This was in the years 1817–23; and though there were outbreaks of influenza in 1815–16, they were confined to America and Iceland, neither of which countries was visited by the cholera. Influenza preceded cholera in 1831, apparently by accident.

Lower animals affected.—Another analogy between dengue and influenza was long ago pointed out. In the former, dogs, cats, sheep, and cows have been affected at Cadiz, Baroda, Rangoon, and in Algiers, while influenza among horses, dogs, and cats has been reported ever since 1693 from the British Isles, United States, Wurtemberg, and the Cape of Good Hope.

The *duration of the epidemic* in each disease is about three months, perhaps rather longer in dengue.

The *incubation* is about four days in dengue, less in influenza.

The *commencement of the attack* is very sudden in both, with shivering, giddiness, and perhaps vomiting, but more distinct pain in dengue. Headache and general malaise are present, as in all other cases of pyrexia.

Physiognomy.—I have not seen in influenza the marked flushing of face and other parts which is present in dengue. The conjunctivæ are liable to be mildly injected in both fevers.

The *eruption* in dengue is probably present nearly always, but in many cases so slight and so fleeting that it is not noticed. In other cases a distinct rash is present for periods varying from one to six days, and it may be remembered that the rash and subsequent desquamation were so well marked in the last dengue epidemic in Cairo that some competent observers mistook them for scarlet fever symptoms. During the late Constantinople epidemic most of the dengue patients had an erythematous rash, beginning in the face and afterwards on the body, and followed by desquamation. Influenza has only claimed to have an eruption during this present epidemic; it has been seldom seen, and by all accounts when present has been very slight and very irregular, hardly deserving more notice than the little roseolar rash which often accompanies simple continued fever, due to malaria or exposure to sun or cold.

Desquamation to any appreciable extent can only be seen in patients who have had a decided eruption. In dengue it may last for three or four weeks, and great flakes may be shed from the hands and feet. I believe that no peeling to this extent has yet been reported in influenza.

The *temperature* and *pulse* are by no means dissimilar in the two fevers, but in dengue the pulse does not rise with the temperature, often remaining between 63 and 90. The febrile period lasts longer in dengue, and the temperature is apt to rise a little higher than in influenza.

Digestive symptoms.—A coated tongue and loathing for food are more noticeable in dengue and last several days longer than in influenza. Constipation is equally present, and the spleen equally unaffected. Vomiting and other gastric symptoms are much more common in dengue.

Headache is bad in both, but more neuralgic in influenza. Giddiness during invasion and in premature convalescence are felt in both. Pains in muscles, bones, and joints are much more severe in dengue, and are apt to continue for a long period after convalescence; the disease has on this account often been confounded with rheumatism. Delirium and sleeplessness may occur in both. Epistaxis occurs in both, chiefly in dengue, and in both diseases the catamenial flow becomes exaggerated. Sore-throat is a very common symptom of dengue, the fauces and tonsils being red and angry looking, but in influenza it is rather the larynx and trachea which are affected.

Varieties.—Another analogy between the two fevers is found in the curious way in which the epidemics differ from previous outbreaks. There have been dengue waves chiefly distinguished by rheumatic pains, by swelling of joints, by enlargement of glands, by hæmorrhages, by relapses, by initial and terminal eruptions, or by the absence of all of the above, or by the presence of only one of them. The medical papers lately have been full of the varied types of the influenza poison, as seen by various observers to differ from the classical accounts of forty years ago.

Convalescence is very slow in dengue, the patient remaining prostrated, anæmic, thin, and liable to pains for two or more weeks. In influenza, at least in the East, recovery is rapid, and just as the patient thinks he is laid low by an attack of fever to which he must succumb, he suddenly finds himself almost quite well again. He is then liable to a remission, but in dengue he requires no warning against this, for he is far too ill still to commit any imprudences.

Complications in dengue are so rare as not to require discussing, while they seem to be the chief danger in cases of influenza. Bronchitis, pneumonia, and pleurisy, so common in the one, are absent in dengue, and in a dangerous case of the latter it is rather the heart, liver, or kidneys which are affected.

The *prognosis* in dengue is consequently always favourable, and the mortality of an epidemic is often *nil*, though it may rise to a maximum height of 1 per cent. In influenza an unfavourable prognosis must be kept in mind in discussing patients who are aged, weak-lunged, or neglectful. In Paris alone the late epidemic seems to have been answerable for some 5000 deaths, and in London the deaths under the heading of influenza for one week last January reached 127.

The *treatment* of these two diseases is the least interesting thing connected with them. No specific for prevention or cure has as yet proved reliable, and anti-malarial remedies seem useless. Rest in bed is the most important thing, and salicine preparations seem useful to combat the pain and fever of both the diseases.

Cairo.

OBSERVATIONS ON ACUTE RHEUMATISM.

BY ROBERT BELL, M.D., F.F.P.S.G.,
SENIOR PHYSICIAN TO THE GLASGOW HOSPITAL FOR DISEASES PECULIAR TO WOMEN.

IN this paper it is my desire to lay before the profession the conclusions I have arrived at after fifteen years' observation of acute rheumatism. Doubtless the subject has been well and ably discussed by much more competent writers than myself; yet there are one or two points relating to its etiology which, in my opinion, have been overlooked, or at all events treated more cursorily than they deserve, and it is to these I would like to call special attention.

It is a noteworthy fact that certain families are much more prone to rheumatism than others—that, in short, it is a hereditary complaint. Notwithstanding this heredity, we find the entail can readily be broken if certain precautions are taken. Let me first, then, observe that rheumatism rarely attacks individuals whose bowels are in a healthy condition. I do not mean by this that the individual has a daily evacuation of the bowels, but that he has a complete evacuation. I fear a great many people deceive themselves by imagining they are in perfect health regarding this function because they have a stool once in twenty-four hours. This, however, is not consistent with my observation in a great many instances. Others imagine that a motion of the bowels every two or even three days is not any great departure from the healthy requirements. Now on this point I am compelled to differ very seriously. Not

only is it necessary that the bowels be evacuated daily, but that they be thoroughly emptied, that, in short, complete relief must at the time be experienced. If a patient is asked the question, "Do you feel thoroughly relieved or do you feel inclined to press as if the bowel still retained some fæcal matter?"—it will frequently be ascertained that the latter sensation is experienced. In these cases the fæces will be found to be much harder in consistence than is compatible with perfect health. Then, again, we are often told, "My bowels are all right, they act every day—indeed, sometimes two or three times a day." This is always a statement requiring sifting, and, if further inquiry be made, these patients, on the other hand, frequently go one day, two days, or even longer, without a motion at all. There is yet another form of constipation which is very misleading to the patient—viz, when there are attacks of diarrhœa alternating with periods of constipation. Sometimes the former may continue for several days, while the latter may do so for a somewhat shorter period. This form of diarrhœa has several peculiar traits. In the first place, the stools are very small in quantity, being watery in character but frequently containing small pieces of hardened fæces. They are also usually very fetid in odour. The patient never feels satisfied that the bowel is emptied, and is possessed of a feeling to sit and strain in his desire to obtain relief. Then, again, the call to go to stool is very imperative, and he dare not procrastinate. The two chief exciting causes of this pseudo-diarrhœa are rising to the erect posture after a night's rest and the partaking of a meal. It is in point of fact a looseness of only a limited portion of the colon and rectum, the direct cause of it being an irritability of this portion of the gut, set up by an accumulation of scybala higher up, and not infrequently the seat of this is in the ascending colon, and can be distinctly felt by external palpation. I may remark, *en passant*, that this may, and often does, prove to be at least a predisposing, if not an exciting, cause of typhlitis. It is advisable not to take a patient's statement as to the condition of his bowels without further investigation, and more especially if the following symptoms are present: (1) Bad taste in the morning; this, however, may be present during the day as well, and is evidently due to absorption of fæcal fluid by the bloodvessels of the colon, and thus reaching the salivary gland and tainting the secretion; (2) dark patches under the eyes and a dusky complexion; these symptoms are due to fæcal absorption, which destroys the healthy character of the blood-corpuscles, and will ultimately lead to destruction of many of their number and may eventually lead to anæmia; (3) frontal headache; (4) cold feet; (5) undue sensitiveness to cold—the last three are probably due to a vitiated blood-supply, acting prejudicially upon the heat-carrying powers of the red corpuscles and reducing the tone of the nervous apparatus; (6) languor and general lethargy, sometimes accompanied by excessive muscular fatigue, especially experienced in the lumbar region; (7) sleep does not yield the refreshment it ought to do, and is disturbed by disagreeable dreams; (8) irritability of temper; (9) general functional weakness, especially of the stomach and liver; (10) high colour of urine, with copious deposit of lithates. It may now be asked, What has all this to do with acute rheumatism? Well, my observations go to prove that these symptoms are so frequently present in persons who are prone to this disease that I am inclined to attach some importance to them as factors in its production. So far as I can discover rheumatism is not nearly so likely to occur in those whose bowels are in perfect order as in those whose condition is the reverse. It seems, then, only natural to assume that the predisposing cause lies in many instances in the vitiated condition of the blood arising from fæcal absorption. There are, however, other vehicles besides the colon by which deleterious matter is conveyed to the blood; and, as a direct consequence of the contamination induced, acute rheumatism may be the result. Amongst these may be mentioned the rupture of a pharyngeal abscess or that of a quinsy, and the passage of the pus into the stomach, and subsequent absorption from that organ. I am thus led to infer that the microbe, which is the pathogenic entity of the disease under discussion, requires for its nidus a vitiated condition of the blood, and that in blood which is free from fæcal, purulent, or other impurity the disease does not tend so readily to develop. By far the larger number of cases met with in practice, however, are induced by that toxic condition arising from long-continued constipation. The vitality of the individual, and therefore of his blood, is thus diminished, and rendered a fitter nidus for the micro-organism which appears to constitute the essence of the disease. In a like manner exposure to cold and wet depresses the vital forces, and may prove to be an exciting cause, but this will probably result in a rheumatic attack only if habitual constipation has previously existed. If we now consider for a moment the sites of the disease selected for the explosion of its virulence, an additional argument in favour of my deductions will be found there. Why does the rheumatic poison attack the serous membranes by preference? Because their blood-supply is less copious than that of the bones and muscles, and, therefore, if the conditions of the blood are impaired they are the first to suffer from that cause, and, in consequence, are rendered an easier prey to disease, their normal vitality being less than that of those organs whose vascular supply is greater. If we look at the subject from a therapeutic point of view, we have yet another argument in favour of my reasoning—viz., the power of salicine and its allies over the disease. It cannot be doubted that these act by their antiseptic virtues, and thus either destroy or paralyse the disease-producing organism. The strongest argument, however, in favour of my reasoning is the fact that the disease can be successfully treated without the aid of medicine at all by merely keeping the lower bowel empty by means of enemata frequently repeated. The favourable results that I have thus attained appear to me to be an incontestable argument in favour of the views herein expressed. It is not to be inferred, however, that I would discard the use of such medicines as salicine, salicylate of soda, and other remedies which act as antipyretics, but it will be found that the effect of these will not only be rendered more pronounced, but more permanent, by the employment of enemata simultaneously.

If we consider the subject of muscular rheumatism in conjunction with the articular variety, we shall find that the muscular tissue *per se* is not the seat of suffering, but that the pain is due to an inflamed condition of the sheath of the muscle, which gives rise to adhesions of this membrane to the subjacent fibres, resulting in painful impressions on muscular contractions taking place, because of the traction on the sensitive sheath. Here again we find the location of the disease to be in a membrane where the vascular supply is meagre and the vitality normally low. It may be asked, How can it be conceded that a vitiated blood-supply induced by fæcal absorption constitutes such an important factor in the production of acute rheumatism? My reply is, in the first place it lowers the quality of the blood, thus rendering it less capable of resisting disease. It reduces the healthy standard of the nervous system by its blood-supply being thus vitiated. In short, it acts as any other blood poison would tend to do, and through its action on the nervous apparatus interferes with functional activity of the various organs of secretion. Metamorphosis is incomplete, and the products of decomposition remain in the blood, exerting their baneful effects. The kidneys fail to eliminate the uric acid that is produced, and it becomes precipitated as urates in the joints. It has been suggested that salicine and its compounds tend to rid the kidneys in the evacuation of this substance. Is it not rather that they act by their antiseptic power, thus either destroying or paralysing the pathogenic virus, and by this means enabling the functions of the kidneys to be more efficiently performed—in short, by removing the incubus which was before retarding the powers of excretion? If, however, we employ enemata frequently, and thus keep the colon empty, we will produce very much the same effect upon the kidneys, and this is accomplished by preventing the absorption of fetid fluids from this portion of the intestinal canal, and so starving the blood of that abnormal or obnoxious product which appears to give activity to the organisms which are pathogenic in this instance. In the light of the present day we cannot accept the once prevalent notion that a chill or wearing damp clothing for a time can of themselves develop rheumatic fever; yet we know that there are frequently exciting causes of the disease. But is this not due to the fact that the health of the individual has temporarily been impaired in the manner I have indicated, and the further depressing effect of cold and damp has enabled the pathogenic organism to gain the mastery and establish a footing in the already vitiated blood? We must always bear in mind that when there is persistent constipation there is always functional weakness of the various organs, and the vitality of the individual suffers, thus rendering him more prone to disease.

Glasgow.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

SYPHILITIC AFFECTIONS OF THE UTERUS.

BY HENRY LEE,
CONSULTING SURGEON TO ST. GEORGE'S HOSPITAL.

CASE 1.—Several years ago Mr. Cadge of Norwich sent to this hospital a gentleman and his wife. The wife had repeatedly miscarried. They both went through a mild, sustained course of mercury. After this they had healthy children; after a time, however, they came again, when the wife had again repeatedly miscarried. She then went through a second mercurial course, and then again had a healthy child. Whether there were any more children I have not had the means of ascertaining.

CASE 2.—The wife of a gentleman who had previously been under my care for syphilis came with a most irritable and distressing rash over the lower part of her body and in the axillæ. The eruption was composed of a very large number of minute red pimples, and the intervening portions of skin were also red. This condition gave her no peace day nor night, and made her life almost intolerable. It had existed for some weeks, and, as happened in the following case, she could not refrain from scratching. This lady informed me that she had been under a very prolonged treatment for disease of the womb, and for weeks together occasionally had kept her bed with profuse menorrhagia. Two of her children had been treated for hereditary syphilis before they attained the age of puberty. After a sustained course of mercury, which she thoroughly carried out with the assistance of her husband, who had undergone the same treatment, she appeared perfectly cured, and subsequently had a very fine, healthy child.

CASE 3.—A lady, who had been under very prolonged treatment for displacement of the womb, came under my care for a most distressing irritation on the lower part of the body. This was accompanied by a profuse eruption of bright-red pimples, from which a transparent fluid exuded. This irritation had long continued, and had made her life quite miserable. She felt as if she "could scratch herself to pieces." Her husband, who had been previously under my care, and two of her children were treated for syphilis. Both before and after the appearance of the eruption she had constant aching and sense of bearing down in the back, accompanied by a chronic discharge. Any pressure in the neighbourhood of the womb gave pain. Under a mild course of mercury lasting for three months her symptoms disappeared, and she considered herself quite well, but for some time slight brownish discolourations came on the face. These were persistent for a time, but have now entirely disappeared. The children which she had after the mercurial course were comparatively healthy. In all these cases, with the exception of the children, the mercury was given by means of the calomel bath. The action of this upon a patient's system is regulated by the quantity of calomel used in each bath. As a rule, the bath should be used every night, so that the action may be sustained. This requires to be especially noted, because I find that in some institutions where the calomel baths are supposed to be administered, one, two, or three baths a week are often deemed to be sufficient. But a more serious evil than this sometimes occurs, a sweating bath is given in addition to the calomel bath. The sweating weakens the patient, and washes off the calomel. In one instance I have direct evidence that the sweating baths were given as calomel baths without any calomel at all. Short inhalations of the vapour of calomel increase the efficacy of the baths; but if this is done it should be when the vapour is thoroughly mixed with common air, and the calomel used should contain no free hydrochloric acid; this irritates the mucous membranes. If calomel, as usually obtained, be sublimed, and a piece of moist litmus paper held in the vapour, it will indicate the presence of a free acid. When pure calomel is used, and inhalation is not desirable, one or two drachms may be used at each bath to begin with. It is of great advantage if the patient can sleep in the cloak used for the bath. If taken in the bedroom, if small, this should be fairly ventilated.

Savile-row, W.

TREATMENT OF OBSTRUCTIVE DYSMENORRHŒA.

BY THOMAS MORE MADDEN, M.D., F.R.C.S. ED.,
PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, TEMPLE-STREET, DUBLIN, ETC.

IN the recognition of obstruction from cervical stenosis as the chief cause of dysmenorrhœa will be found the key to the pathology and successful treatment of this condition in the great majority of cases. Thus in my hospital practice during the past twelve years nearly 11 per cent. of this form of dysmenorrhœa, or of sterility similarly caused, have come under observation in a total of 9000 gynæcological cases. Of all the ailments of female existence, few give rise to more persistent suffering, or produce more disastrous effects on the general health, and also more especially on the cerebro-nervous system, or even on the moral constitution of the patient, than does well-marked obstructive dysmenorrhœa. The latter consequence is evident in many cases of alcoholism, which in women may very frequently be dated from their first painful menstrual period, for the relief of which stimulants are too often improperly administered and repeated in increasing doses, until finally, in many cases, the victim of dysmenorrhœal alcoholism becomes a habitual and, perhaps, an incurable drunkard.

It is not my purpose here to refer to the successive improvements which have since been effected in the methods of carrying out the dilatation of the cervical canal, which as a general rule (not without some exceptions, however) is obviously the most rational plan of treatment for the cure of dysmenorrhœa occasioned by stenosis of this passage since the introduction into practice by Simpson and Sloan of sponge tents or laminaria bougies for that purpose. No greater improvement has occurred in our branch of surgery than the replacement of these oftentimes unsatisfactory, possibly hazardous, and always painful procedures by the more effective means now at our disposal for the rapid expansion of this canal. Of these, perhaps, the best known and most generally employed are either Hegar's, Duke's, or Lawson Tait's dilators. I now desire to call attention to another instrument which I have designed for the same purpose, and which, I venture to think, may be found to supply a want still recognised by some gynæcologists—namely, that of a reliable and effective means of securing the rapid and permanent dilatation of the cervical canal in the treatment of stenosis giving rise to the morbid conditions now under consideration. This instrument differs from other dilators in several respects, and, above all, in one which I consider most important—viz., in producing expansion of the canal from within outwards—in other words, in imitating the natural process of expansion from the uterine cavity downwards to the os uteri; whereas most other dilators, such as Hegar's, act in the opposite direction. In my own hands the utility of this instrument, the expansion effected by which should be cautiously carried out and carefully be measured by the affixed index, has been fully tested in a very large number of cases of obstructive dysmenorrhœa in hospital and private practice. I may add that my dilator, which does not occupy more room than the ordinary sound when introduced, may also be used with advantage for the dilatation of the female urethra in many cases in which this procedure is indicated. This instrument has been carefully made in accordance with my directions by Messrs. Arnold & Sons, West Smithfield, London.

TREATMENT OF STRANGULATED HERNIA.

BY BENJAMIN WALKER, L.R.C.P. EDIN., M.R.C.S., &c.

AS a contribution to the above I send two cases, in one of which ice was used and successfully, and I should explain its action, as Dr. Rayne does, "by causing a contraction of the bloodvessels, whereby the size of the tumour is diminished," and by giving tone to the parts. I also believe greatly in the power of hyoscyamine to relieve involuntary muscular fibre spasm, and attribute the reduction to that as much as to the ice, though it was not efficacious till the ice had been applied six or seven hours. No ice was available in the second case. I think highly of its use; that it

cannot do harm, and may do much good, in strangulated hernia, unless the gut has been strangulated so long as to cause suspicion of gangrene, when it might be dangerous; but in these extreme cases the peril is more likely to be caused by the constriction of vessels by pressure than by diminished vitality from lowering of temperature by cold, and that the sphacelus would advance as certainly by the unrelieved stricture. I share Mr. Marriott's diffidence in differing from such an authority as Mr. Heath, by I do not gather from his able lecture that he condemns it on any but theoretical grounds. He says: "I cannot imagine why an ice-bag should be put upon a strangulated hernia, because it certainly cannot do any good," but he gives no cases, or speaks of his own practical experience, or as having seen disastrous results, as he surely would have done had he seen such. The following are the cases.

H. G——, fifty-four years of age, the subject of incomplete inguinal hernia for three or four years past, for which he has worn a truss, which successfully controlled it. He had felt some discomfort about the part the previous evening, but went to bed, having as usual removed his truss, and went to sleep. He was awakened about 1 A.M. on June 13th to find the hernia down, and with severe pain, tormina, and vomiting. I gave him hyoscyamine, half a milligramme doses every half hour. The first three doses were returned, when the sickness ceased, and the next three were retained, and he fell asleep. At 8 A.M. I failed to reduce the hernia; there was bilious (green) vomit and an anxious expression of countenance. He was ordered to continue the hyoscyamine with an equal quantity of strychnine sulphate every half hour, and to have a bladder of ice and salt over the tumour (which was about the size of a pigeon's egg), and to keep the thigh flexed on the body by a pillow placed under the thigh. At 6 P.M. a message informed me he was unrelieved; but a couple of hours later on visiting him I found the hernia had just slipped back without any manipulation.

Two years ago an old-standing case of umbilical hernia, the size of a Tangerine orange, in a very stout man of middle age. The rupture descended about 10 A.M. He had often reduced it before, but failed on this occasion, as I did after careful attempts. He was in an agony of pain, with violent spasm and tormina most painful to witness. I gave him hyoscyamine as above, but every quarter of an hour, and twenty minims of liquor morphiæ hydrochloratis every half hour to relieve the pain. His sufferings were relieved and pain rendered tolerable after the first dose or two. On visiting him three hours later, I found the hernia had returned spontaneously after the twelfth dose of hyoscyamine. He had a fresh descent of the hernia about eight months ago, and was unrelieved by any remedies, and unfortunately succumbed to the operation, for which he was a very bad subject, as, in addition to his obesity, he was a chronic sufferer from bronchitis and asthma.

Spondon, Derby.

TWENTY-SEVEN EPILEPTIC CONVULSIONS AFTER LABOUR; RECOVERY.

By PUGIN THORNTON.

THE following case appears worthy of publication because the recovery of the patient may have been due to the drug administered.

E. G——, aged twenty-four, was admitted into Canterbury Gaol on April 10th, 1890, with a sentence of two months' imprisonment. She was in good health, but both tibiæ were very rachitic, so that she was only 4 ft. 1¾ in. in height. This woman was confined of a full-time male child on May 13th, at 2.15 A.M., the labour lasting a little more than an hour. She said she had once previously had a child. During the labour she complained of intense headache, which did not leave her after the child was born, though it was rather less severe. Five hours and a quarter after the labour she had an epileptic fit, and between this time (7.30 A.M.) and 8 15 A.M. on the following morning she had twenty-seven seizures. She was unconscious throughout, remaining so after the fits had ceased until 5 A.M. on the 15th. From this date she made an uninterrupted recovery, but for some days was unable to take solid food, her tongue having been severely bitten during the attacks. On her discharge from the prison on June 10th she was able to carry her infant to the station. My first treatment was bromide of potassium, but as it was found impossible to administer this medicine, I put the woman under chloroform. Not being able to continue its administration I ordered drop doses of 1 per cent. nitro-glycerine every hour. This treatment was begun at 1 P.M. on the 13th and was carried on until 5 P.M. It was recommenced at 10 P.M., and from that time was given every hour until the cessation of the fits. It was then administered less frequently until twenty doses in all had been taken. During the time this treatment was being carried out the matron of the prison remarked to me that she felt sure the medicine had good effect, that, though it did not lessen the violence of the fits, it evidently affected the length of time between them. Feeling sure that the woman had albuminuria, and being very much occupied at the time, and not expecting her recovery, I did not make any examination of the urine. There was no albumen in the woman's urine shortly before her discharge from the prison. During the time of the convulsions I once gave chloroform to enable the bed linen to be changed.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Procemium.

ST. MARY'S HOSPITAL.

A CASE OF SIMULTANEOUS FRACTURE OF BOTH CLAVICLES; REMARKS.

(Under the care of Mr. EDMUND OWEN.)

THIS case is one of much interest, illustrating as it does a very rare result of injury, the fracture of both clavicles in the adult, apparently due to indirect violence. Gurlt, in his great work on fractures, met with only eighteen recorded cases, all of which were produced by great violence. In Malgaigne's case, referred to by Mr. Owen in his remarks, the injury was caused by a fall of fifteen feet from a window. Mr. Erichsen[1] had a patient under his care, a man aged twenty, who, in a railway accident, sustained a fracture of twelve ribs and both clavicles. Mr. Hulke[2] refers to a case, that of a young girl, in whom this injury was also associated with fracture of the ribs, under treatment in the Middlesex Hospital in 1867. Polaillon collected eight cases. More recently Messrs. Bennett, Flinn,[3] and Ringwood[4] have also recorded examples. As a rule, the fractures have united well, although in eight of Gurlt's series non-union occurred, and recovery has been perfect. But Mr. Hulke[5] mentions the case of a man aged forty-seven, admitted to the Middlesex Hospital with ununited fracture of both clavicles, occasioned by the same injury, but the ultimate result is not stated. Dr. Burr[6] had a man aged fifty under his care, with complete fracture of the clavicle on both sides, caused by the patient having been thrown from a cart on a rail fence. The left clavicle united, but there was no union on the right side when the case was published. Dr. Dowse[7] showed a case of considerable interest in 1875, that of a girl aged fifteen, with a condition of deficiency in the outer halves of the clavicles. Opinions were divided as to whether the condition was due to congenital deficiency of the bones or to non-union of fractures. For the following report we are indebted to Mr. J. J. Knox, house surgeon.

E. H——, a married woman aged fifty, was descending a flight of stairs, carrying in one hand a jug and in the other a pail of water. She tripped and fell down the whole flight, injuring both shoulders. When brought to the hospital it was found that she had sustained a simple fracture of both clavicles. The fracture was in a similar position on either side—viz., at about the junction of the middle and outer thirds, and there was the usual displacement of the outer

1 THE LANCET, September, 1861.
2 System of Surgery, vol. i., p. 950.
3 THE LANCET, vol. i. 1887, p. 178.
4 Medical Press and Circular, 1887. 5 Loc. cit.
6 Medical Record, 1882, p. 500.
7 Medical Times and Gazette, vol. i. 1875, p. 296.

fragments. She was put to bed at once, with instructions that she was to lie flat on her back, without a pillow, and that she was not to move. As she lay on her back the fragments of the right clavicle came into excellent position, but considerable deformity persisted on the left side. An endeavour was made to rectify the malposition, first, by a figure-of-8 bandage round the shoulders, and subsequently by a handkerchief round each shoulder tied together behind, after the method of Syme, thus dragging the shoulders backwards. Neither plan, however, succeeded in keeping the outer fragment of the left clavicle in proper position, the woman being very restless, and apparently unable to lie still with the bandages in position. No further attempts were made to rectify the deformity on the left side, and she was simply kept on her back. At the end of a month from the date of the accident she was discharged. There was firm union on both sides, but while there was no unevenness on the right, there was considerable deformity of the left clavicle.

Remarks by Mr. OWEN.—Simultaneous fracture of the two clavicles is an extremely rare injury. Hamilton remarks:[8] "A double fracture, or a simultaneous fracture occurring in both clavicles, seldom occurs. I have recorded two cases, both occurring in young boys." These cases were, he says, incomplete, and probably were of the nature of green-stick fracture, which is by no means of uncommon occurrence in rickety children. I have seen several instances of this variety of double fracture amongst the out-patients of the Hospital for Sick Children, Great Ormond-street. But of the simultaneous fracture in the adult Malgaigne (as quoted by Hamilton) had met with but one instance at the Hôtel Dieu in upwards of 2000 cases. Pick writes[9]: "Both clavicles are occasionally, though very rarely, fractured, of course as the result of direct violence." He alludes to a preparation in which the double fracture had resulted from the large branch of a tree falling upon a man. In the case reported above, however, the fracture was the result of indirect violence, for the woman falling would drop the jug and the pail, and put out both hands to break the shock.

QUEEN'S HOSPITAL, BIRMINGHAM.

A CASE OF EPITHELIOMA OF THE BLADDER; RESECTION OF GROWTH AND BLADDER WALL; REMARKS.

(Under the care of Mr. F. MARSH.)

THIS case is a most interesting one of the removal of a malignant growth of the bladder, and is an important contribution to our literature on that subject. Mr. F. Marsh alludes in his remarks to the high mortality which at present obtains after the operation, and certainly published cases do not encourage its performance when the disease is advanced. Only too often the surgeon finds the growth of considerable size, infiltrating deeply, and beyond his power to remove it. It is rare for these cases to come under observation in time to give a good prognosis should the growth be excised. The various methods of operating that have been employed are: 1. The extra-peritoneal, as performed by Antal[1] of Buda-Pesth, who stripped off the peritoneum from the portion of bladder affected, removed as much as a third of the bladder, afterwards closing the wound in the bladder and abdominal wall, excepting at the lower angle. His patient, a man aged fifty-one, recovered from the operation, but had recurrence in six months, and died at the end of a year after its performance. 2. The intra-peritoneal, as performed by Sonnenberg of Berlin,[2] who removed two-thirds of the bladder with an epitheliomatous growth implicating chiefly the anterior wall. The operation was difficult and the peritoneum extensively injured. Drainage was provided by the urethra and over the pubes. The patient, a female aged sixty, died from exhaustion at the end of a month. Thirdly, excision of the growth from within outwards as performed by Guyon.[3] In this case, a man of fifty-five, the growth was placed in the right lateral wall, and it was not necessary to remove the whole thickness of the wall. Six sutures were inserted in the wound. The patient remained well for two years, and ultimately died at the end of four years from local recurrence. Guyon was able to recognise in this case the presence of a fatty layer, which is said by Clado to lie between the base of the growth and the healthy structures at a certain stage of their development. Mr. Barling,[4] from an examination of several cases of carcinoma of the bladder does not find this to be present in all cases. Mr. Bruce Clarke[5] operated on an elderly man, and removed peritoneum over the bladder and growth excised. The patient died in a few days, but not from peritonitis. Lange of New York resected a portion of the base of the bladder (not going through all the coats) for a small epithelioma, sewing up the wound afterwards in much the same manner as Guyon.

E. S——, aged fifty-five, a very stout woman, was admitted into the Queen's Hospital on May 15th, 1889. She had a good family history, was married, and had a family. She had always led an active life and been moderate in eating and drinking. For twenty years she worked in a coloured paper manufactory, but these last thirteen years she has only done household work and acted as a midwife. She suffers from chronic bronchitis, but with this exception has, until the present illness, had fairly good health.

In June, 1888, she first noticed blood in her urine, but could not assign a reason for its appearance; it was very profuse at first, but in the course of a few weeks it gradually got less. Profuse hæmorrhage occasionally occurred, but as a rule only a small quantity of blood was passed. One of these profuse hæmorrhages had taken place two days prior to her admission into hospital. There has been increased frequency of micturition both day and night for some time. The blood is rarely mixed with the urine, some times being passed at the commencement and sometimes at the close of micturition, a sharp burning pain accompanying the process. She has been treated with various astringent and hæmostatic drugs without benefit. Although she has been losing flesh for some months, she still weighs about sixteen stone. When under observation in the hospital it was recorded that she passed urine as frequently as ten times during the day and five or six times during the night, and that on every occasion she suffers a sharp burning pain; at other times she is comparatively free from pain of any description. The urine on standing is generally clear, with a varying quantity of blood settling towards the bottom of the glass; the specific gravity varies from 1012 to 1020; the reaction is alkaline or neutral, and a small quantity of albumen is present. Microscopic examination reveals blood cells, phosphates and bladder epithelium, but no cell nests.

On May 23rd, under an anæsthetic, a cystoscopic examination was made, and an ulcerated growth, clearly malignant, was localised at the summit of the bladder, almost in the middle line. The urethra was then dilated to admit the finger, and the diagnosis confirmed. As the growth seemed strictly localised and in a fairly favourable position for removal, I decided, two of my colleagues who were present concurring, to proceed to resect the growth through a suprapubic incision, extra-peritoneally if possible. Owing to the great depth of the wound—quite six inches—and empty bladder, considerable difficulty was experienced in the operation, and it was found impossible to remove the whole of the growth without a piece of the peritoneum. After completing the resection the opening in the peritoneum was carefully sutured; the bladder wound was left open with a drainage-tube leading down to it. The growth was of irregular shape, ulcerated in the centre, and the area of the bladder wall removed with it was about three inches by two inches. Unfortunately vomiting immediately came on after the anæsthetic, and soon changed into hæmatemesis, which resisted all remedies, and the patient gradually sank and died two days and a half after the operation. The wound was aseptic and healthy; the kidneys acted well throughout; the urine drained freely away through the dilated urethra; there were no evidences of peritonitis; and but for the hæmatemesis there was every reason from the local conditions to anticipate a favourable result. Permission for more than a local post-mortem examination could not be obtained, so that the condition of the liver could not be ascertained.

Remarks by Mr. MARSH.—In a communication on this subject, recently published by Mr. Gilbert Barling in the *Birmingham Medical Review*, it appears that only five cases

[8] Fractures and Dislocations, fourth edition, p. 184. Philadelphia: F. H. Hamilton.
[9] Fractures and Dislocations, T. Pickering Pick, p. 151. Cassell and Co. 1885.
[1] Central. für Clin., 1885.
[2] Berl. Klin. Woch., 1884.
[3] Le Progrès Médical, 1887.
[4] Birmingham Medical Review, March 1890, p. 129.
[5] Sajous, vol. iii., p. 237. 1888.

of formal resection of the bladder wall for the radical cure of carcinoma have been recorded—viz., one each by Bruce Clarke, Sonnenburg, and Antal, and two by Guyon. Of these cases two only could be said to have recovered from the effects of the operation, one living twelve months and the other four years, local recurrence taking place in each. So far the results are not encouraging, the six cases showing a mortality of 66 per cent., and not one permanent cure. We may, however, reasonably hope that, with an extended and more general use of the cystoscope, an earlier diagnosis will be made, and that consequently better results from operative measures will be achieved, for here, as elsewhere, the successful treatment of malignant disease depends largely on its early recognition.

Medical Societies.

EPIDEMIOLOGICAL SOCIETY.

Epidemic of Dengue Fever.

A MEETING of this Society was held on June 11th, Sir Thomas Crawford, K.C.B., M.D., President, in the chair.

Dr. A. J. F. SKOTTOWE read a paper on the Epidemic of Dengue Fever that prevailed in the Fiji Islands from May, 1885, to March, 1886, attacking the entire white population and subsequently the natives, as well as the Indian and Melanesian immigrants, though the last suffered but slightly. It was evidently introduced by a European who had contracted the disease in Noumea, whither it had been brought from Réunion, its extinction at each of these places having been prematurely reported. Within the preceding ten years extensive and fatal epidemics of measles and of whooping-cough had ravaged these islands, and one of influenza broke out shortly before this of dengue, continuing along with it, but, unlike it, attacking nearly the whole population. Dengue, having been introduced into one of the two European towns, soon spread to the other, for though they were on separate islands and parted by sixty miles of sea, there was constant communication between them. The natives first attacked were those resident amongst the whites or in the villages on the sea coast, whence they came in their canoes with fruit and vegetables for sale in these towns, while, owing to the rough character of the interior, the progress of the disease inland was slow. Creeping from village to village along the shore, it seems to have reached the interior of these two islands solely or chiefly by the traffic up the rivers to the plantations and factories, where the Indian workmen and others, being in closer association with their European employers than the Melanesian labourers, were attacked more severely, while the natives in remote villages and outlying islands escaped almost entirely. In fact, it would be impossible to have had more conclusive evidence of its propagation by personal intercourse and not by atmospheric agencies, and it was worthy of note that, despite the frequent and regular communication with Noumea during the epidemic there, it did not appear in the Fijis until, owing to the relaxation of precautionary measures, a person actually suffering from the disease was allowed to land, after which it raged in these two towns for a considerable time before the intervening districts were involved. The concurrence of epidemics of dengue and influenza presented an opportunity for comparing and distinguishing these diseases. Dengue, like relapsing fever, clearly required close personal intercourse for its communication, though intensely infectious within such proximity. The poison of influenza, on the other hand, if less contagious, was capable of much wider diffusion, so as rapidly to overrun an entire island, and thus apparently to justify the hypothesis of atmospheric transmission. Dr. Skottowe quoted cases from his own and Mr. Corney's experience proving the incubation period to be little over twenty-four hours, and that one attack did not confer any immunity against a subsequent exposure to infection. He described at great length the symptoms of the disease as seen by him and as reported by others, particularly noting the pyrexia, which reached 104° or 106° on the second day, declining on the third, to rise again about two days later, and finally to subside by the eighth or tenth day. Each exacerbation was attended by an erythematous condition of the face &c., followed by desquamation, not, he believed, a true eruption, but rather resembling that which often accompanied other fevers, as small-pox, quite apart from their characteristic exanthemata. Many cases, however, were mild and transient, and in these the erythema might be absent. Of the complications said to have been noticed in some epidemics, as hæmorrhages and articular affections, he had seen none. True relapses did not, he believed, occur, though the disease was of a distinctly remittent type, and recurrence on fresh exposure was not unknown. No one in Fiji had met with the complete intermissions, with apyrexia or subnormal temperatures, described by Dr. Christie at Zanzibar and Dr. Thomas at Savannah. Dengue was certainly not malarial, paludal fevers being almost or quite unknown in Fiji, unless when contracted elsewhere, and the points of resemblance between dengue, influenza, relapsing fever, rheumatism, &c., were evidently accidental, while those of difference were essential. In his experience the mortality had been *nil*, but a number of deaths were reported among the natives, doubtless caused by their practice of plunging or lying in cold running water during the height of a fever, to which the appalling mortality in the previous epidemic of measles was almost wholly due.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Section of State Medicine was held on April 25th, Dr. A. W. Foot, President, in the chair.

The Infectious Diseases (Notification) Act, 1889.—Dr. COSGRAVE read a paper on the Infectious Diseases (Notification) Act and its extension to Dublin. Having detailed the favourable impression made by a two years' personal experience of the working of compulsory notification in Huddersfield, the author dealt with the various objections made to compulsory notification. Breach of confidence might apply to voluntary notification, but once notification is required by the Legislature there is no breach of confidence, but the notification is put on the same footing with a certificate of cause of death or of successful vaccination. Dr. Cameron of Leeds has shown that voluntary notification has only dealt with from one case in five to one case in three, and then often after the power of doing good is gone. The small fee is objectionable from a medical man's point of view, but a guinea fee would be decidedly objectionable to the ratepayers. The Act came into force in Dublin on March 1st, but has not yet been acted upon. When it is, its success will depend upon the skill and tact of the sanitary officials and upon the hearty coöperation of the medical men. The sanitary officials ought to be skilled and to be required to pass an examination under some independent body before being appointed. The Act is already in force amongst three-fourths of the population of Great Britain, and the medical officers of health have generally reported in its favour.—The PRESIDENT said it was one thing for the Legislature to lay down a scheme for discovering the causes of disease, tracking its sources and stamping it out, but it was another to carry out that scheme successfully; and in his opinion the workability of compulsory notification would depend on the general practitioners.—Dr. WILLIAM MOORE was glad to learn from Dr. Cosgrave's personal experience that compulsory notification was not in the slightest degree irksome. He regarded the system as being of enormous advantage. The probability of the advantage of the system in epidemics of small-pox or scarlatina was indicated by the fact that in one outbreak forty cases were traceable to the existence of scarlatina in a milkman's shop. He deprecated the shabby treatment of the profession by the Legislature in awarding the miserable pittances of 2*s.* 6*d.* and 1*s.* as fees.—Dr. GRIMSHAW, Registrar-General, said he had long been an advocate of the notification of infectious disease and was glad, while agreeing with the condemnation of the paltry fees, that the only question now for discussion was how the Act could best be worked. The principal difficulty turned on the question of removal to hospital of the cases notified without risk. There must always be the difficulty of mistaken diagnosis; and hence it was incumbent on the health authorities of the city to see that proper observation wards were provided for the reception of doubtful cases. Indeed, he considered it would be little short of criminal neglect if such wards were not provided. The idea that people could not get two infectious diseases at the same time was dead and buried long ago; and, therefore, he thought the leaders of the medical

profession should press upon the authorities the necessity of making provision for the difficulties of mistaken diagnosis.—Dr. R. MONTGOMERY having spoken, Mr. DOYLE said that the interests of general practitioners would suffer under the Act unless they were enabled to follow their cases into hospital. While he was not an opponent of compulsory notification, he would devise some means of avoiding the injustice of depriving general practitioners of their paying cases.—Dr. COSGRAVE, in reply, said the public health authorities were bound to provide proper accommodation where it did not exist. In Cork-street Hospital observation wards were worked with great care to prevent the mixing of different infectious diseases. It was the fever wards in general hospitals that were so dangerous. He considered the smallness of the fee fixed by the Act a necessity, and suggested that those who did not care to take it might let it go to the Medical Benevolent Fund.

The State Medicine Qualification.—Dr. GRIMSHAW read a paper on the State Medicine Qualification. He said the question of the conditions under which qualifications in State medicine should be conferred had recently come prominently before the profession, owing to the action taken, under peculiar circumstances, by the General Medical Council at their meetings of May and November of last year. He proceeded to state that the Council had possessed these powers for two years before they took any action to exercise them, and it was apparently not until the Local Government Act of 1888 came into force that it was thought necessary to move in the matter. The eighteenth section of that Act, although a step in the right direction, appeared to him to be extremely weak. Having quoted Section 18 of the Local Goverment Act, Dr. Grimshaw observed that unless a district contained 50,000 persons according to the last published census, it was deemed unnecessary to require that the medical officer of health should have any special qualification for the discharge of his duties; so that people who had the misfortune to be members of a smaller community may have the arrangements for the prevention of disease under the charge of a person who had never given any special attention to this branch of his profession. Quoting Section 17 of the Local Government Act of 1888 in support of his views, Dr. GRIMSHAW put the question—What have the Medical Council done towards providing such a high-class officer? He replied by quoting the well-known resolutions and rules of the Council. The Council appeared to him to have misconceived the extent and nature of the duties required of a medical officer of health of a large district devoting his whole time to the work. Such an officer, in his opinion, was essentially an executive and consulting officer, not one for the personal or individual carrying out of preventive measures and sanitary improvements. Two elements in the special curriculum required by the Medical Council point to their holding a view contrary to this; they require certificates of six months' practical instruction in a laboratory and six months' out-door sanitary work. There was not a word about what sort of laboratory the study was to be carried out in further than that it was to be "approved of by the body granting the qualification." Was it to be in a chemical, physical, or bacteriological laboratory, or partly in each? If partly in each, the time for study was insignificant. If not in all, the education would be very incomplete. A medical officer of health should know how to inspect nuisances; he should also understand how sanitary engineering works should be carried out, but it was not his duty to carry them out, or to inspect nuisances, except in rare cases. The Council did not make any specific demand for any instruction in such important subjects as meteorology, engineering, vital statistics, or law and medical jurisprudence. A minimum qualification was to be provided to meet the requirements of Section 18 of the Local Government Act for a medical officer of health fully qualified in State Medicine and fit to exercise the important functions of a medical officer of health of a district containing a population of 50,000 inhabitants or upwards. All of those interested in the efficiency of public health organisation pressed for the provision now found in Section 18. He thought Parliament would have taken little notice of their efforts if they had known how little the General Medical Council required to be added to ordinary professional knowledge in order to provide a fully-fledged diplomate in State Medicine. Nearly all authorities seem to concur in the vie w that there should be two grades of qualification in State Medicine—one for those district Poor-law medical officers who necessarily must combine many of the duties of health officers with those of attendance on the sick poor; such a qualification should also be required of officers of the navy and army, and resident officers of all public institutions, such as lunatic asylums, prisons, hospitals, &c. If the General Medical Council desire to create experts devoting their whole time to the work of medical officers of health over large areas, or to act as district inspectors, their programme was insufficient, but for a district officer their standard was too high. Dr. Grimshaw, in conclusion, suggested some alterations in the curriculum with a view of having a diploma issued which might be called a diploma in State Medicine.

The Boarding-out System of the Insane.—Mr. CONOLLY NORMAN read a paper on this subject. While asylums are a matter of necessity for a large number of the insane, they could never be made homes. Economic and other considerations were of less consequence than the advantages that might accrue to the insane under favouring circumstances and under a well-worked system of boarding out.—Dr. WILLIAM MOORE said the increase of lunacy in the county Antrim was occupying the attention of a committee as regards the disposal of harmless lunatics, and the provision of further accommodation to meet the increase. The boarding-out plan suggested a means of providing for the harmless lunatics without incurring the cost of building a big asylum.—Dr. R. MONTGOMERY and Mr. DOYLE having spoken, Mr. CONOLLY NORMAN briefly replied.

Reviews and Notices of Books.

The Marine Climate of the Southern California Coast, and its relations to Phthisis. By P. C. REMONDINO, M.D., President of the Board of Health of the city of San Diego.

DR. REMONDINO gives a very full and comprehensive account of the meteorological features of the Southern California coast and their relations to disease, especially to phthisis. The district described has an extent of 260 miles, and includes all that portion of the coast which lies between Point Arquello and the Mexican frontier. The mountain range which sends out to sea a lofty spur forming Point Concepcion divides Northern from Southern California, the latter having more warmth, less rain and fog, milder winds, and greater equability of temperature than the former. The remarkable features of the climate of this southern littoral region can be understood only by keeping steadily in view the peculiar formation of the country. We have first a narrow strip of coast not more than fifty or sixty miles wide; then a steep mountain chain, rising abruptly to the height of 5000 feet, and in some places to 7000 feet; then on the eastern side a sudden dip to the great Colorado desert, portions of which are below sea level. Recollecting the latitude (33° or 34° N.), some of the chief characteristics of the climate are easily explicable. The intense heat generated by the sun's rays playing upon the great Colorado desert causes the ascent of an immense volume of superheated air. This cannot flow off towards the east or north, as the deserts of Arizona and Mojave respectively do not present the requisite conditions of coolness. Part, therefore, takes a southerly direction to the Gulf of California, but by far the greater part flows towards the Pacific, where, being speedily cooled, it descends to the ocean level, and is again sucked in landwards by the uprush of hot air from the Colorado desert. This sea breeze, which is really a land wind on its return to its place of origin, and which has not lost much of its original dryness by its short contact with the ocean, is one of the most characteristic features of the Southern California coast climate. It is almost continuous by day in summer, and so effectually moderates the summer heat that the monthly mean temperature at San Diego for July and August is only 67° and 69°, as compared with a mean for November and December

of 58° and 56°. The average speed of this sea breeze is about six or eight miles per hour, enough to promote coolness without causing any unpleasant windiness. By night this wind is reversed, when the air over the desert cools faster than that on the western slopes, on account of the more rapid radiation. For a few days each year this regular succession of winds is broken by the prevalence of the disagreeable "Norther," which may be compared with the hot wind of Victoria or the khamseen of Cairo. Fortunately its duration is usually brief. The rainfall of Southern California is everywhere somewhat small, and in some places insufficient for the support of vegetation. The average annual precipitation at San Diego is only 11 inches, at Santa Barbara 18 inches, at Los Angeles 17 inches. As we approach the mountains the rainfall, of course, increases, and the yearly mean at Julian (elevation 4500 feet) is 37 inches. Across the mountains on the desert the yearly average falls to less than 4 inches at Fort Yuma. The winter is the rainy season in California, and Dr. Remondino assures us that the rain usually comes quietly in showers, without wind, thunder, or lightning. The author claims for the climate of the Southern Californian coast a combination of dryness with equability, the dryness being attributable to the low rainfall, the character of the soil, and the proximity of great deserts, and the equability to the regular succession of winds already described. "The marine climate of this coast," says Dr. Remondino, "is without an analogue either in the marine or land class of climates. With extremes of dryness it has equability, while, as a rule, dryness and variability go together. Sea coasts are usually of the moist order of climates, while this, with all its atmospheric humidity, is a dry coast climate; but the strangest anomaly is that, be it wet or dry, one part of the year is as healthy as another." These are strong claims, and, if they stand the test of time and fuller investigation, should give the Southern Californian coast a high position among the best known climates.

Dr. Remondino discusses at considerable length the influence of marine climates upon phthisis, and sums up strongly in their favour. This is a return to the views of Laennec and most of the older authorities—a doctrine somewhat thrown undeservedly into the shade by the good results obtained at some of the high-altitude sanatoria. In forming a rational creed upon this difficult question, we must beware of the fallacy that lurks under most sweeping generalisations, and we must never shut our eyes to any well-authenticated facts. The good results obtained at Davos, Görbersdorf, Denver, Bogota, and such like elevated sanatoria, must not make us rush to the fallacious generalisation that high altitudes are a specific for phthisis, nor should such facts cause us to ignore for a moment the excellent effects that often attend a sea voyage or a residence at a marine sanatorium. We have to recognise that good results may attend either method, that general rules lead only to confusion, and that our business is not to exalt the high altitudes over the sea voyage and the marine resort, or *vice versâ*, but to seek as patiently as possible to determine the indications and the contra-indications for and against each type of climatic treatment.

Dr. Remondino is emphatic in his opinion that atmospheric moisture, as compared with soil moisture, has no influence in generating phthisis, a view in which we quite concur.

As regards the results of the treatment of phthisis at San Diego, Dr. Remondino speaks very confidently. He informs us that the banks, stores, and business houses are largely manned by cured consumptives, and that of the physicians, dentists, lawyers, and clergymen it is safe to say that eight out of ten resorted to California for their health. Of 258 deaths registered from phthisis during ten years at San Diego only nine cases were born in California. In estimating the value of this fact we must remember that we are dealing with a new country, mainly peopled by immigrants. Dr. Remondino thinks cases of hæmoptysis do very well in California; he has also seen apparently wonderful results in laryngeal phthisis, in which affection his experience would appear unusually fortunate.

If past experience warns us that roseate accounts of new sanatoria must be received with much reserve, there seems every reason to admit that Southern California is one of the most favoured regions of the world, that its climate possesses a conjunction of advantages rarely to be found, and that the country presents many attractions for the tourist, settler, or invalid.

OUR LIBRARY TABLE.

Subjects of the Day. A Quarterly Review of Current Topics. Edited by JAMES SAMUELSON. London: G. Routledge and Sons, Limited. — The scheme of this new quarterly is to treat some current topic in an exhaustive manner by means of a series of articles written by different hands and dealing with different aspects of a common theme. The first number, for example, is devoted to "State Education for the People," and comprises articles on "Education in India," by Sir Wm. W. Hunter; "Elementary Education in England," by Mr. Hance, Clerk to the Liverpool School Board; on State Education in Scotland, National Education in Ireland, and Comparisons between the English and Continental and English and American Systems of Elementary Education; Notes on Education in Canada and in Australia; and on Commercial Education; and articles upon the Education and Status of Women. Technical Instruction and the New Education Code follow; and the whole is summarised in an editorial paper, and illustrated by a bibliography and index. It will thus be seen that the volume constitutes a small encyclopædia of the subject, and it only remains to add that the very ingenious and excellent idea has been admirably worked out, and a contribution made to current literature which will have much more than merely ephemeral interest and value.

Practical Guide to the Demonstration of Bacteria in Animal Tissues. By Dr. H. KÜHNE, Wiesbaden. Translated and Edited by VINCENT DORMER HARRIS, M.D.Lond., F.R.C.P. London: Baillière, Tindall, and Cox. 1890.—The pathological histologist will be grateful to Dr. Harris for having furnished him with this eminently practical and useful manual, which Dr. Kühne has written. The preparation of sections, their appropriate staining, and methods of mounting are discussed with a detail which must be of great importance, whilst appendices containing formulæ of the composition of staining fluids, descriptions of microtomes, of the methods of embedding, &c., are of no less value.

Revue Internationale de Bibliographie. Dirigée par le Docteur Jules Rouvier. Vol. I, No. 1, April, 1890. Paris and Beyrouth.—This venture, which is due to the enterprise of a Beyrouth physician, is intended to be a quarterly catalogue of medical writings in all parts of the world. It promises well; but it is no disparagement to say that it will be difficult to equal the invaluable *Index Medicus*, which has the advantage of being a monthly publication. To the student of medical literature such periodicals are of great service, although the experience of the *Index Medicus* gives cause for fear that they are not supported as well as they should be by the profession. The annual subscription (France and Postal Union) for this *Revue* is only ten francs.

London (Ancient and Modern), from the Sanitary and Medical Point of View. By G. V. POORE, M.D., F.R.C.P. Cassell and Co. 1889.—Our readers are familiar with some portions of this interesting *brochure*, which raises problems

respecting the sanitation of the great metropolis that are well worth pondering. The manner in which the air-space of the metropolis is being gradually diminished by the "improvements" in height and in extent of its buildings, and the fictitious value of land, which leads to the covering of every available square foot with bricks and mortar; the consequent proportionate increase of the population within a given area; these and many other vitally important matters are set forth with a lucidity and literary skill which cannot fail to rivet attention. The book is one which may be read at a sitting, with profit as well as pleasure; for, leaving the question of sanitation, Dr. Poore takes us in a charming way through the "medical" traditions and history of London, its early practitioners, the founding of its colleges and their rise in influence, the foundation of hospitals and of medical schools. He enables us to realise how vast are the resources of the largest city in the world in charity and in opportunities for medical education; and yet, withal, there lingers the doubt whether, owing to the ever increasing growth of the city, it may not become too huge to be controlled by sanitary measures. It is true that, in pointing out the blots on its hygienic management, he suggests remedies; but it will need a very thorough reform in legislative enactments to restore anything like purity to its air and water—the essentials of health and comfort.

Manual for Army Medical Services. By WILLIAM E. RIORDAN, Surgeon-Major, Medical Staff. Pp. 460. London: Eyre and Spottiswoode. 1890.—This is a work which ought to be in the hands of every Army medical officer. In it are brought together not merely the War Office regulations affecting the medical arrangements of the army, but a great amount of information on collateral subjects which cannot fail to prove useful for the instruction of officers on joining the service, and as a source of easy reference from which the senior officer may refresh his memory or settle points on which he may entertain doubts as to the proper course of procedure. In view of the responsibility now attaching to medical officers for the maintainance of discipline in the military hospitals and among the men of the Medical Staff Corps, the chapters on military law and on the rules by which evidence is governed cannot fail to prove highly useful. Those on barrack instruction and ventilation, the quality of the air, water, and food, and the conditions of contract under which the last is supplied and its quality ensured, are well deserving of careful study. The book has the advantage of a copious index.

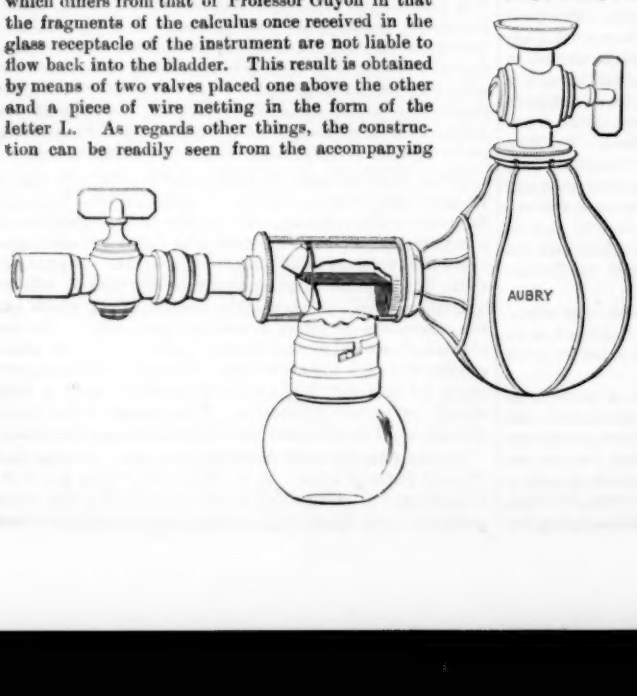
The Principles and Practice of Surgery: being a treatise on Surgical Diseases and Injuries. By D. HAYES AGNEW, M.D., LL.D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely illustrated. Second edition, thoroughly revised, with additions. In three volumes. Philadelphia: J. B. Lippincott Company. 1889.—The second edition of this very ponderous work on surgery does not call for an extended notice. No change has been made in the general features of the work, and the only additional chapter is a very brief one on Antisepsis. This is disappointing to the reader, for it does not give any sufficient account of the mode of treatment, or of its merits and results. The rest of the work shows but few signs of revision, and such work as Dr. Senn's on Intestinal Surgery is not mentioned. The revision of the work afforded an opportunity for considerable condensation and curtailment, but it has not been taken advantage of. The three volumes are, however, a striking proof of Dr. Agnew's prodigious industry and energy.

New Inventions.

NEW EVACUATOR,

PERFECTED BY DR. EDMOND WICKHAM, FORMERLY ANATOMICAL ASSISTANT IN THE FACULTY OF PARIS.

AT the last meeting in April of the Surgical Society of Paris, Dr. Horteloup, Surgeon to the Necker Hospital, exhibited on behalf of one of his old residents an "Evacuator" which differs from that of Professor Guyon in that the fragments of the calculus once received in the glass receptacle of the instrument are not liable to flow back into the bladder. This result is obtained by means of two valves placed one above the other and a piece of wire netting in the form of the letter L. As regards other things, the construction can be readily seen from the accompanying figure. The different pieces can be rapidly taken apart, and the cleaning of them is not difficult, which assures a perfect absence of septic material. The apparatus fills itself completely with fluid, which cannot be managed with the apparatus of Guyon. For this it is sufficient, after having filled the evacuator by the tap fixed at the top of the indiarubber bag, to turn round the instrument, this tap being closed, and to open the tap opposite, by means of which some bubbles of air make their escape, which are replaced by the solution.



Two objections may be made to Dr. Wickham's evacuator: that the fluid is drawn across a wire netting—but this presents a surface two and a half times larger than that of Guyon, consequently the arrest of fragments is not to be feared; that the noise of the valves may become mixed up with the click of the fragments which remain in the bladder, and which are still too large to pass by the evacuating tube.

Dr. Wickham proposed to follow the example of Dr. Bazy, and cover over the valves with linen, but noticed that, on giving some attention, the difference between the two sounds was easily made. It was therefore unnecessary to diminish the aseptic advantages of the instrument.

The construction of the instrument is very simple. The original evacuator was made by Aubry of Paris.

THE LANCET.

LONDON: SATURDAY, JULY 5, 1890.

IN an address delivered before the Pennsylvania State Medical Society, at Pittsburgh, Dr. THOMAS J. MAYS discusses the relation between artificial inoculation and pulmonary consumption. The substance of his contention is that the transmissibility of tuberculosis by inoculation, which, since VILLEMIN'S experiments in 1865 is incontestable, does not afford any sure ground for regarding the disease as contagious, and that the clinical evidence is against the theory of contagion. We agree with Dr. MAYS that if the doctrine of the contagiousness of tuberculosis be false, then those who drive it to extremes "perpetrate a terrible wrong on those who are afflicted with this disease, and also waste the time and energies of the people by misleading them in regard to the true nature, cause, and prevention of consumption." No doubt those who maintain the contagionist view take upon themselves a heavy responsibility; but it would be idle to deny that this view has received an immense impetus since KOCH'S discoveries and that over a large part of the world it is coming to be regarded as axiomatic. Perhaps the very facility with which this doctrine is accepted and carried to its legitimate issues by many who cannot profess to have subjected it to any adequate testing is a good reason for hearing an advocate of the opposite school, like Dr. MAYS, who does not hesitate to declare that "he who takes a calm and impartial retrospect of the whole situation must own that never was an *ignis fatuus* pursued which left more promises broken and greater anticipations unfulfilled than this bacillus theory, so far as it stands related to the prevention and treatment of pulmonary consumption." We have ourselves often taken occasion to point out that it is one thing to admit—what we regard as certain—that the bacillus is the essential factor in tubercle, but quite another thing to acknowledge the efficacy of the so-called germicide remedies. These remedies have certainly had a fair trial, and have had the patronage of many distinguished men, but we fear the ultimate fruit from them has been mainly disappointment and disaster.

Dr. MAYS is very emphatic in his contention that this question of the contagiousness of phthisis must be determined by clinical evidence, and not by laboratory experiments. He asks, confidently, What are the facts? and any clinical evidence on the subject will be very welcome. Some of his points are as follows:—That physicians, though constantly associated with phthisis, are not prone to it, and suffer less than butchers, coopers, locksmiths, and others, who only come in contact with the disease by accident; that the Brompton Hospital did not afford a single well-authenticated case of contagion in thirty-six years; that Dr. FÜRBRINGER'S statistics of the Friedrichshain Hospital at Berlin show that during sixteen years out of 459 male nurses only 4 became phthisical (two of whom were tuberculous on entering), while of 339 female nurses only 2 became affected. Dr. MAYS does not seem to be aware of CORNET'S statistics, which are diametrically opposed to his. He gives the statistics of Dr. BREHMER, to the effect that at Görbersdorf since the establishment there of the well-known sanatorium for phthisis the mortality from phthisis has not increased, but has actually notably diminished in the village, in spite of the continual presence of large numbers of phthisical patients.

Perhaps the most interesting and valuable of Dr. MAYS' statistics are those which relate to the contagiousness of phthisis between husband and wife. These are given on the authority of Dr. SCHNYDER of Switzerland, who records 844 cases of phthisis occurring among married people. In 445 of these the husband only, and in 367 the wife only was phthisical, while in 32 both husband and wife were affected, showing that in 812 cases there was no proof of contagion. As regards the remaining 32 cases, Dr. SCHNYDER denies that there was any proof of transmission, some of them having been affected at the time of marriage. The late Dr. FLINT gives the history of 670 cases of phthisis which affected husbands and wives, among whom there were only five cases in which there was a reasonable suspicion of transmission. M. LEUDET gives the cases of 112 widows and widowers whose consorts died of phthisis, and of these only 7 became subsequently phthisical. Dr. MAYS also gives the well-known results of the collective inquiries organised by the British Medical Association some years ago. Of 1078 answers to the query whether the observer had noted any probable cases of the transmission of phthisis there were 778 answers in the negative, 39 doubtful, and 261 affirmative.

These figures are worthy of every attention, and are encouraging as tending to prove that if phthisis be contagious it is only very feebly so, and that any panic on the subject, or any language likely to excite the public mind unduly, must be steadily deprecated. But we know the fallacy that often lurks in an apparently imposing array of figures, and the practitioner who believes he has seen a few cases of the transmission of phthisis will hardly be shaken in his conviction by any amount of negative evidence.

Dr. MAYS dreads the effects that might follow if the belief in the contagiousness of phthisis were to prevail widely. He informs us that in the city of Naples for a period of sixty-six years (from 1782 to 1848), owing to the prevalence of this belief, the most rigorous measures were introduced for the suppression of the disease: that the ceilings, walls, floors, and windows of rooms where consumptives had died were torn out, the bedding and furniture destroyed, and the houses rendered uninhabitable, that the families of the patients were shunned and driven to want, and the patients themselves regarded as public pests. The result of all these rigorous measures was that the disease remained as prevalent as before.

At the present time when old ideas have been roughly shaken, and new ideas are hardly established on a very secure foundation, it is no easy matter for the thoughtful practitioner of medicine to say what attitude he ought to assume towards the question of the contagiousness of phthisis. He feels that he is not free to ignore the new light that has been shed upon the pathology of the disease,

and that, on the other hand, while the clinical evidence of contagion remains so inconclusive, it is a very serious thing to teach his patients a doctrine so distressing to themselves and to their friends—a doctrine, further, that has proved of little or no value with regard either to prevention or cure. A dogmatic attitude is hardly yet possible; but we are at least safe in discountenancing panic while approving of reasonable precautions, and we must heartily welcome any evidence tending to throw light on a subject which is of such vast practical importance.

THE progress of Medical Education in the United States of America is a subject of great importance to the people of America and is not without interest to the profession in other countries. The faults and defects in it, which have operated against the recognition of American titles and diplomas abroad, and which indeed are very glaring, have not been great enough to blind us to the fact that both medicine and surgery have been much advanced by American practitioners and will be still more so when medical education is put on the same footing and foundations as those on which it rests in Europe. It has been the custom to attribute the loose state of law in regard to medical education and qualification in the States to the absence of a central body controlling and harmonising the requirements of individual schools and examining bodies, and compelling the observance of certain essential and fundamental regulations. Each State is in this matter a law to itself, and can act without reference to the general advantage and without adequate conception of the good of its citizens. And for the loose and easy sense of responsibility of the States in so acting it has been usual to blame the democracy, who may be excused for insufficient realisation of what it is necessary to secure in order that medical education shall be real and sound. An article in a recent number of the *New York Medical Record* seems to suggest that other influences are at work for which it is not so easy to make excuse. It will scarcely be credited that during the last session legislation has been procured in the State of New York—the largest State of the Union with by far the largest population, including some of the greatest medical schools,—which puts the clock backward in the matter of medical education. If there is one thing more than another on which medical educationists of all countries, America included, are agreed, it is this:—that good medical education can only *follow* a sound general education; and that to expect a man to see medical truth and duty aright without first having the general culture of a man of education is to expect the impossible. Accordingly it is everywhere accepted that a preliminary examination in general education should be passed before medical study in the proper sense can be commenced. In all schools with any character to maintain this is the rule. It was so even in New York. Yet in the last session in this State a law has been passed allowing anyone wishing to matriculate as a medical student to pass his "preliminary" examination any time in the three years of his medical study. This change is so regrettable that we have some difficulty in believing it to be true; but the *New York Medical Record* declares it to be so, and adds that "it is well known to have been secured through the political influence of the managers of certain medical colleges of this city, and against the wishes and judgment of the medical profession of the State as a whole." We agree with our contemporary in regarding such a change as "disastrous." It is also discreditable, and if it can be disavowed by the managers of all the schools of New York, the sooner it is so done the better. If the interest of the schools requires the admission of illiterate and uneducated men, so much the worse for the schools. And if such views are to dominate the State Legislature in New York, what are we to expect in remote States.

It is gratifying to learn that the report of the Illinois Board of Health—which is the principal source of information on the state of medical education in the different States and Canada—takes on the whole a favourable view of American medical education and its prospects. One of the most hopeful signs is the increase in the number of colleges exacting certain educational requirements as a condition of matriculation. The number has risen from 45 in 1882 to 124 in 1890. The report speaks as if the New York attempt to tamper with the law requiring the preliminary examination to be passed before the commencement of medical education had failed. We hope it may be so. But the *New York Medical Record* ought to know, and our quotation is from that journal of June 14th, a date later than that of the Illinois report. The Illinois report gives as a further hopeful sign—the increase in the number of colleges, from 22 in 1882 to 64 in 1890, which require attendance on three or more courses of lectures in three different years. A list is given of twenty-seven colleges which require four years' study, while in the report for 1889 only four did so, and the authors of the report anticipate that three-fourths of the medical colleges of the United States will within the coming year voluntarily adopt the regulation of the Illinois Board, made in July, 1887, requiring that after the sessions of 1890–91 graduates shall have had four years of study and attended three annual courses of lectures. The moderation of this demand will be apparent to the schools of the States when they consider that in Great Britain the General Medical Council has decided on a requirement of five years for strictly medical study. Great praise is due to the Illinois Board of Health for using the powers which it enjoys under its State Act of refusing the recognition of all diplomas from colleges which fall short of its minimum requirements. It also refuses to recognise as "in good standing" any medical college whose graduates amount to 45 per cent. of those who matriculate.

Other Boards have similar powers, and are following the example of the Illinois Board in using them. We record such efforts with satisfaction. But it is vain to shut our eyes to the fact that with such facilities for the creation of medical schools and diploma-granting institutions the reformers of medical education in the United States have still a hard battle to fight. Last year alone there was an addition of eight new Colleges, not to mention four institutions alleged to be positively fraudulent, and three of very suspicious character. The scale on which such medical institutions are created may be gathered from the fact that this report embraces 277 in the United States, and that of this number 146 are already extinct. What is wanted is

the institution of a central medical authority to prevent the formation of fresh colleges, and with power to suppress those which can give no good account of their *raison d'être*, or of their work. Even the excellent work of the Illinois Board has reference chiefly to regulations affecting merely the length of the curriculum and the guarantee of some general education before the commencement of medical education. It involves little guarantee of the efficiency of school apparatus, of teachers, or of examinations.

IT was hardly to be expected, nor, indeed, should it be desired, that the introduction of a prophylactic against hydrophobia should escape criticism. M. PASTEUR himself would be the first to recognise this, for the merits or demerits of his system are more likely to be proved thereby. But whilst recognising the value of such criticism, it is highly important in the interests of truth that it should be fair and impartial, and that it should not have as its basis any preconceived bias against the principle involved in the method. From the very day that M. PASTEUR commenced his anti-rabic inoculations there have not been wanting those who loudly expressed their incredulity, and who now, because the practice is not invariably successful, as loudly proclaim its inutility, nay, even its absolute danger, to the inoculated. The magazine-reading public are favoured this month with the views of two such critics. Dr. DOLAN in the *Contemporary Review*, and Dr. BELL TAYLOR in the *Nineteenth Century*, agree in this, that the Pasteurian prophylactic for hydrophobia is worse than useless. Unfortunately, neither of these writers can be considered as free from prejudice in the matter. Dr. DOLAN, who some years ago devoted much pains to collect facts concerning hydrophobia, and who then adopted very pessimistic views as to the efficacy of any treatment, says that he then predicted that anyone who proclaimed himself possessed of a "cure" of the disease would soon obtain favourable statistics, because of the numbers who would flock for treatment who had been bitten by non-rabid dogs. He now endeavours to show that the latest method, Pasteurism, is no whit more efficacious than all the vaunted remedies of the past. Yet he seems to us that he over-does his argument in dealing with the Pasteurian statistics. Briefly put, his contention is that the large numbers treated by M. PASTEUR are in themselves inconsistent with what was previously known of the prevalence of hydrophobia, and suggestive of there being a vast proportion among those treated who never would have become the subjects of the disease; whilst the mortality returns for France show practically no abatement in the number of fatal cases during the four years of Pasteurism and corresponding term before its adoption. He seems to forget that a large number of M. PASTEUR'S cases came from foreign countries, and he sets small store by the very reasonable explanation of failures of the method from the intensity of the original virus, or the duration of time between the infliction of the bite and the commencement of treatment. It is, we confess, incomprehensible to us why he rejects the classification adopted by M. PASTEUR as to the source of the bites—viz., into those (*a*) of animals proved to be rabid by the experimental test; (*b*) recognised to be rabid by veterinary surgeons; and (*c*) suspected of being rabid. He rejects this eminently candid and reasonable classification, which enables one to gauge the efficiency of M. PASTEUR'S plan in the most searching manner, because it takes no cognisance of non-rabid animals! Clearly this is begging the question, for all such would be included under the third head. As to the discrepancies in statistics which he points out, we must leave them to be dealt with by those who are more intimately acquainted with the facts; but one thing must strike the impartial reader on this head, and that is that each side in this question seeks either to magnify or minimise the results obtained by assuming a mortality rate for hydrophobia which is most favourable to its purpose. The real fact is that we have no material for accurate statistical inferences. This, however, we do know, that the bites of rabid animals on exposed parts are infinitely more likely to be followed by hydrophobia than those on parts protected by clothing, and, judged by this test alone, M. PASTEUR'S inoculations have surely a claim to be regarded as satisfactory, and as life-saving. To turn now to the other critic, Dr. BELL TAYLOR, who necessarily travels over much the same ground as Dr. DOLAN. Although it would not be difficult to find discrepancies between them, we are taken a step further—namely, to the assertion that either M. PASTEUR'S prophylactic is without effect, or else that it gives the disease it is intended to prevent. The writer adopts a good deal of *a priori* reasoning in his exposition of the fallacies of Pasteurism, going so far as to contrast the method with a plan for curing a case of poisoning by strychnine or opium by administering increasing doses of these drugs! Moreover, he indulges freely in satire, and seems to have failed to grasp the principle which has governed M. PASTEUR in the adoption of his plan. Like Dr. DOLAN, he asserts that the majority of the cases treated by M. PASTEUR have been of individuals who were either bitten or licked by non-rabid dogs, ignoring also the pains which have been taken to determine in all cases the evidence of rabidity. Dr. BELL TAYLOR cites cases which he believes prove that the "treatment" is responsible for communicating the disease, and in another breath he avers that the inoculations are harmless. His assertion that, if M. PASTEUR can really cure one case of hydrophobia, he ought to cure all cases coming to him, is surely hardly made seriously. We are also told that the report of the English Committee will rank with the extraordinary dogma of the Royal College of Physicians that leprosy is not contagious. Finally, it is asserted that rabies in the dog is not the same disease as hydrophobia in the man, and that it is absurd to suppose that inoculation with one disease will prevent the other. Indeed, Dr. BELL TAYLOR does not strengthen his case by such statements, and, on the whole, we think that his contribution to the subject is the more lacking of the two in the scientific spirit. It is perhaps to be regretted that those who see such grave objections to M. PASTEUR'S method of treating hydrophobia should not bring their arguments before a scientific society, where they could be openly discussed. In the pages of popular journals they are free to make any statements they please without fear of contradiction. It is always easier to attack than to defend any principle of

therapeutics; but it is surely better to submit objections to the criticism of those most concerned than to send them broadcast among the community at large.

IN every profession there is a constantly recurring cry against overcrowding, and although it is sometimes asserted that the Darwinian principle of the survival of the fittest must tend towards ultimate improvement, this assertion lends scant comfort to those who fear being crowded out. Frequently, of course, the cry is scarcely justified, and means only that the high ambitious views of youth do not meet with their anticipated early realisation. In the medical profession, however, there are abundant signs that the cry does not arise from petulance, but that the conditions of competition are pressing severely in many quarters. The occasional irritation expressed against consultants by general practitioners, the more frequent complaints of the prescribing chemist, the ill-concealed feeling against specialists, orthodox and unorthodox, the friction between hospitals, provident dispensaries, and workhouse infirmaries, all afford evidence, not so much of petty jealousy, but of real distress, which seeks the nearest scapegoat for the hardness of life. Although there has been some decline in the number of entries at the London medical schools, for many years past the numbers in the medical profession have been inordinately increasing, and at the present time every announcement of even a small appointment is followed by a rush of candidates which sufficiently indicates the scarcity of employment. Those who are already launched in town or country practice frequently confess in moments of candour the difficulty they experience in making both ends meet; they have to take their place in society, they have to incur heavy expenses, and at the end of the year the outgoings are too often perilously near the income.

The old question of the choice of a profession has repeatedly been answered merely in a negative form. In lieu of advice, warnings are given against the selection of any profession which is overstocked. In short, an anxious parent might well be distracted and disheartened to the extent of regarding offspring as surplus population. SWIFT'S "modest proposal" for preventing the children of the poor from being a burden to their parents or country might be summed up into a recommendation to feed them and then eat them! In the medical profession the answer to the problem seems to be rather to starve them after they are fully qualified. Regarding the question with becoming gravity, the General Medical Council has arrived at a more prudent solution so far as qualified men are concerned, and it has done so in a manner which might scarcely have been realised but for a few casual remarks. The end in view was apparently only the general legitimate improvement in education; as science became more exacting it was thought that practice was declining, and, with a proper consideration for clinical instruction, measures have been adopted for ensuring an increased amount of practical work. This, at least, appeared to be the intention, but, as we pointed out recently, the resolution is stultified by uncertainty, and resolves itself merely into an expression of opinion that in future five years are to be passed from the commencement of a student's career to the time of his qualification. Whatever is done with the fifth year, there can be no doubt that the initial cost to the student or parent will be largely increased, and in this increased expenditure some members of the profession complacently anticipate an arrest of overcrowding. While there is a certain amount of worldly wisdom in this, it is impossible to feel that it is a wholly satisfying solution. Probably many will be deterred from competition by the increased expense. The ranks of the profession will be more restricted to those prepared to make a large educational outlay, but there is no certainty that the general scale of remuneration will undergo any improvement. After all there must always be a large number of poor in every town who require medical services. It cannot be anticipated that the most elaborate reorganisation of medical charities will ever do away with the necessity of humbler members of the profession who will minister to their wants. If these are only to be supplied after five years of expensive training, it would appear to involve a very extravagant outlay for a very poor result.

Annotations.

"Ne quid nimis."

THE PROVINCIAL COLLEGES AND THE UNIVERSITY OF LONDON.

IT could hardly have been expected that the provincial colleges would accept the position in which they are placed by the "further revised scheme" of the University of London without a protest. It is clear that the basis of the scheme is to entirely change the constitution of the University in favour of the London teaching colleges, whilst the position of the provincial colleges remains practically unaltered, and this has formed one of our chief arguments against the attempt of the existing University to remodel its constitution and change its work and duties so as to become at once an Imperial Examining Board and a local Teaching University for London. But if such a compromise is to be effected, the London teaching colleges must necessarily have due power and authority in the government of the new institution, or the new departure cannot take place. The objections from the provincial standpoint are most ably and clearly set forth in a protesting letter to the Lord President of the Council, which is being extensively signed by the authorities of the provincial colleges and schools of medicine, and may be briefly stated as that—(1) The open character of the examinations, and the impartiality of the syllabuses of the subjects of examination, will be destroyed; and (2) the provincial colleges will be without representation on the Senate, the Boards of Studies, and the standing committees for the appointment of examiners. These objections are, to a great extent, true; and the reasons why they may be expected to act prejudicially to provincial students are put at length. In the last paragraph of the letter the petitioners say: "It is in no spirit of opposition to the creation of a Teaching University for London that objection is made to the schemes of the Royal Commission and of the Senate. Objection is raised against the transformation of a national institution like the present University of London, whose domicile is naturally in the metropolis, into a local University, with merely the additional power to grant degrees to outsiders." Yet if the proposals of the Royal Commission are to be carried out by the Senate of the University, this is the only feasible plan, and the Royal Commissioners very decidedly point out that the opposition of the provincial colleges

should not be allowed to exercise a controlling influence over the scheme. "There will be no risk of any practical injustice being done to candidates for degrees who come from country colleges, or from no colleges at all. Nothing will be taken from either class which it now possesses, or has any right to claim. It is not reasonable that country colleges should have a negative voice upon the enlargement of the present University for teaching purposes, especially concerning the metropolis." The Senate of the University has, therefore, to ignore either the recommendations of the Royal Commission or the objections of its numerous provincial supporters, who have formed heretofore the main portion of its graduates, and the conflict can only be determined when the final scheme of the Senate is laid before Convocation for its acceptance.

MEDICAL AGENTS.

A CORRESPONDENT who thinks himself badly used by a firm of medical agents sends us a report of an action in which he was recently adjudged liable to pay a commission upon a business transaction which he considered that he had himself carried through without the assistance of a business agent. The facts appear to have been that he advertised his practice for sale, and received, among other replies, one from a firm of medical transfer agents, who enclosed their prospectus, setting out the terms upon which they would be prepared to undertake his negotiations. The vendor replied, furnishing particulars as to his practice, under the impression apparently that his correspondents were acting for an intending purchaser and without meaning to authorise them in any way to act for him. The agents thereupon communicated with one of their clients, who, in his turn, wrote direct to the vendor and eventually concluded an arrangement with him. The vendor's view was that the client was the agent's principal and that to him they would have to look for their remuneration, and accordingly, when asked to pay the stipulated commission, he declined to recognise any such bargain as binding on himself. It would appear, however, that he had written what from this point of view was a very indiscreet letter, in which he said that if the intending purchaser bought the practice "he supposed he would have to pay them their usual commission." Apparently this admission weighed with the jury, who in the event gave the plaintiffs a verdict for the full amount demanded. The case is one which illustrates the great importance in all business matters of having a clear comprehension as to the footing upon which the parties stand. It is easy to understand that in such a case as our correspondent brings to our notice both parties were acting with perfect good faith, and, although we do not feel ourselves able to re-echo our correspondent's complaints, we sincerely sympathise with him in the annoyance which he will naturally feel at having drifted into what is, relatively to his own intentions, a wholly false position.

CALF LYMPH FOR PUBLIC VACCINATION.

DR. CAMERON and others have long urged the public use of calf lymph in public vaccination for those who prefer it. It is certainly wise in sanitary authorities to use every available means for removing the objections or the prejudice that hinder parents conferring on their children the immense advantages of vaccination. We learn with much satisfaction that in some districts the "authority" has sanctioned a system by which a regular supply of calf lymph is sent to the public vaccinator on the day for public vaccination. If we mistake not, this system has been for some time in operation at Kensington. It has lately been adopted by the guardians of Islington, on the suggestion of Mr. Rowntree, one of the public vaccinators. It is supplied moist and in tubes at the expense of the authority. It is said to "take" with almost unerring certainty. We commend the example of Kensington and Islington to other vaccination authorities. With ordinary care in the selection of lymph, of children, and in the use of scrupulously clean and disinfected instruments, few operations are safer or simpler than vaccination with human lymph; but by all means let authorities vie with each other in meeting the views of all reasonable people.

THE CAMBRIDGE MEDICAL GRADUATES' CLUB.

THE annual dinner of this club was held at Limmer's Hotel on Friday, June 27th. The chair was occupied by Dr. C. J. Hare. Among the members of the club who were present were Professor Humphry, Dr. W. H. Dickinson, Professor Latham, Dr. E. Liveing, and several other leading Cambridge medical graduates in London and from the provinces. The guests included Sir Geo. Stokes, Bart., M.P., the President of the Royal Society, and Mr. Jonathan Hutchinson, the President of the Royal College of Surgeons of England. The club has greatly increased in numbers, and now has 261 members. Dr. J. K. Fowler, who has been one of the honorary secretaries since its formation, has resigned his post, and Dr. H. D. Rolleston has been selected to fill his place. A unanimous vote of thanks was passed to Dr. Fowler for his unremitting devotion to the interests of the club, to which its present prosperity is greatly due.

WOMEN AND HIGH CULTURE.

IT may reasonably be asked in the interests of the community at large what will be the effect on women, and through them on future generations, of the prolonged mental strain to which they are now—partly voluntarily, partly owing to the suggestion and the inducements held out to them by others—submitting themselves? Will it hurt their constitutions? Will it make them a bag of bones, and body and mind alike hard and angular? Will it render them less prolific, or make them the mothers of a feeble and degenerate race, prone to epilepsy and insanity? Will it, by engendering a feeling of independence, render them less lovable, less disposed to enter the married state, or, being married, make them careless of home ties, the nursing and teaching of infants, and the proper household duties which devolve on a woman under the conditions of modern civilisation? Or will it act in a contrary way? Will the mathematical or the classical lady scholar, decorated with medals and rich with prizes and exhibitions and scholarships, still be open to the assaults of love? Will her wider knowledge foster domestic happiness? Will the children, even if fewer, be better developed, more intellectual, better fitted as they grow up to cope with the other great nations in the conflict for wealth and power and all that these command? Will she still be as the sweet gentle mother is now, the very focus and centre of the house? These and many similar questions must have passed through the minds of most thoughtful persons in contemplating the present tendencies of female education. From a physiological point of view something may be said on both sides. Given a robust and healthy woman of seventeen or eighteen years of age, there can be no harm in continuing her education till she is one or two and twenty; at the same time the objects and methods of her education might well be different from those of men. Female Bentleys and Porsons, Newtons and Herschels, will certainly not be numerous, and if signs of such commanding genius displays itself, by all means let it be cultivated to the utmost. But every girl might be so taught that her mind, instead of being devoted to frivolous objects, should be educated in the true sense of the term, and made to recognise the importance of early training and the value of application to useful objects in order that she

may begin betimes to teach without strain or effort her offspring. The arts at least are freely open to her. The point when harm is produced is when weak or dull girls are made to work beyond their strength, and whether weak or strong it must always be remembered that suitable recreation is demanded. Finally, it must not be forgotten that sound common sense is better in the affairs of life than much knowledge, and that women are not fitted for public appointments. Their sphere is home.

CONVERSAZIONE AT THE ROYAL COLLEGE OF SURGEONS.

ON Thursday evening, June 26th, by permission of the Council of the College, the President, Mr. Jonathan Hutchinson, F.R.S., gave a very successful conversazione in the College. About 1200 guests assembled in response to the invitations, and were received by the President in the large hall. Various objects of interest were exhibited in the museums, library, and other parts of the building. In the Western Museum specimens in general zoology and human anatomy; in the Middle Museum, the fossil remains of extinct vertebrates; and in the Eastern Museum the skeletons of various animals. Refreshments were served in the large library. In this room were exhibited a large series of medical portraits, various letters and manuscripts, the Annals of the Barber Surgeons of London, recently published volumes illustrating animals in motion by Mr. E. Muybridge, a resurrectionist's diary, 1811-12, with many rare and interesting books. Mr. Plowright exhibited and demonstrated a series illustrating parasitic fungi on plants. In the Council-room were arranged selected specimens of eggs, with a view to the illustration of facts in natural history and biology. Mr. Edward Bidwell, Mr. W. M. Crowfoot, Mr. W. H. Caldwell, Mr. Henry Seebohm, and Professor Stewart contributed by their specimens to the success of the most interesting exhibition in this room. In another part were shown the clothes of a man who was struck by lightning and stripped naked but not killed; ancient Roman surgical instruments; specimens of albinism in birds and mammals, by Mr. Brett; and by Mr. Hutchinson, a raised globe coloured in black to show the present distribution of leprosy, also a raised map of India, coloured, to show the prevalence of leprosy in that country. Mr. E. B. Paulton, F.R.S., gave a lecture, illustrated by lantern, on "Protective Colouration in Animals." Mr. Plowright also gave a short lecture explanatory of his series of specimens of parasitic fungi. In the Western Museum the Royal Artillery Band was stationed, and played a selection of music during the evening.

REPORT OF THE CENSUS COMMITTEE.

THE Report of the Departmental Committee appointed to consider the various suggestions that have been made for improving and enlarging the scope of the census to be taken in the United Kingdom next year has at last been placed on the table of the House of Commons. The more important recommendations of the Committee are that an intermediate census, embracing simply the facts of number, sex, and age, should be taken between the usual decennial censuses, that the Census Bill should enact the usual detailed census enumeration once in every ten years at a fixed date, giving full power to take an intermediate census of a simpler character, and that a small permanent Census Department should be created in the General Register Office for the purpose of dealing with, and maintaining continuity in, census arrangements and population statistics generally. Speaking generally, the Committee reports decisively against the expediency of enlarging the scope of the census inquiry, conclusive evidence having been given that increase in the number of questions submitted to the heads of families in the householders' schedules would necessarily involve serious risk of increased inaccuracy in the information sought on the indispensable subjects of inquiry. On the subject of a religious census the Commissioners make no recommendation, and practically leave it to the decision of Government and Parliament. The delay in the passing of the necessary Census Act is very much to be regretted, as the alteration and complication of boundaries that have taken place since 1881 by the operation of the Redistribution of Seats Act, the Local Government Act, and the Divided Parishes Acts very far exceed the similar alterations that have taken place in any previous intercensal period. The period for census preparation should therefore have been increased, instead of which it will now probably be, in consequence of the delay in passing the necessary Census Act, shorter than it has ever been.

DOSES IN THE PHARMACOPŒIA.

THE liberty of action allowed by the British Pharmacopœia has often been the subject of criticism, and must frequently have been the cause of annoyance to students vexed with having to learn two or more doses for almost every preparation. The custom of rendering precise information of minimum as well as maximum doses is not one which conveys any particular lesson. It appears to be based upon the idea that whereas it is dangerous to give more than the maximum dose, it is useless to give less than the minimum. One of the first things learnt in practice is that doses smaller than those indicated are frequently employed, both in the case of children and also when the drug forms only one of many ingredients in the prescription. On the other hand it is undoubtedly true that for some remedies safety lies in the largeness of the dose, and danger in undue timidity. Remedies intended to cause vomiting or purging may be positively injurious if the dose given is insufficient to produce the desired results when the patient incurs the risks of absorption and its consequences. While, therefore, the English system may be defended upon certain grounds, it is worth noting that it is not universal. The French committee entrusted with the preparation of a formulary of new remedies was directed to make a table indicating the maximum doses of poisonous substances. This committee has worked with remarkable energy, and has published a provisional list of drugs and chemicals which should be included in the formulary, a list embracing no less than 440 items. Compared with the very modest list which is to appear in the Addenda to the British Pharmacopœia it is obvious that the compilers have been guided by very different ideas. So many new remedies can scarcely have been generally accepted by the profession, and until they have been fairly tried in many quarters the maximum dose must be rather empirical.

TERRITORIAL MONOPOLIES OF QUALIFICATION.

THE battle against exclusiveness in the qualifications required for hospital appointments in England—by the way, what about the preference shown to Scotch and Irish qualifications in Scottish and Irish hospitals?—is to be renewed with liveliness and force at a special general board of the governors of the Bristol General Hospital on the 9th inst. Our opinion on this subject has often been expressed, and is quite clear that where qualifications of the same name, in different divisions of the country, have the same significance as tests of education they should have the same privileges. The Irish colleges are fighting this battle with great pertinacity, and it is for the English colleges to show any flaw in their elaborate proofs that the terms of the Membership and Fellowship of the Irish colleges are in any degree less strict than those of the corresponding qualifications in the English colleges.

The Scottish Corporations are more quiet, and seem to leave the fighting to the Irish bodies, who seem actually to enjoy it. We cannot pretend to divine the reason for the comparative passiveness of the Scottish bodies, who doubtless look for a full share in the wider recognition of diplomas. We notice that one witness before the Lords' Committee on Hospitals tells their lordships that the Fellowships of the Scottish Corporations are still *given without examination*. We do not pretend to know how the examination for the Fellowship of the Edinburgh College of Surgeons or of the Faculty of Glasgow would compare with that for the Fellowship of the English or the Irish College. But we suspect that this witness's statements are in this instance inaccurate. Still, the Corporations of Scotland owe it to themselves to prove that such statements, true not many years ago, are very much the reverse now. If they do not, they leave the advocates of narrowness and exclusiveness an easy argument against their opponents, and may indefinitely postpone the abolition of territorial distinctions. The Irish College of Surgeons makes a point of its having invited the General Medical Council to inspect the examinations for its higher qualifications. This is a false point. The Irish College, however, knows that such inspections would be very costly, and that the Council, unfortunately, has no authority to "inspect" the examinations for higher diplomas. There is much to be said for the Irish and Scotch colleges procuring, at their own expense, impartial reports on their higher examinations. But there is a dash of humour in inviting the Medical Council to undertake this duty.

PHENACETIN IN TYPHOID FEVER.

DR. SOMMER has used phenacetin with great success in the treatment of typhoid fever, thus confirming the favourable views of its action which have been expressed by Masius and others. The dose employed for adults was four grains, which was repeated from two to four times during the twenty-four hours. Children were given only half this dose. No less than sixty cases were treated in this way, with but one fatal case, about which it is noted that the patient was not subjected to phenacetin treatment until three weeks from the commencement of the attack. In no case were there any serious complications.

EDUCATIONAL SYSTEMS.

DR. ISAMBARD OWEN has published, in the form of a *brochure*, a paper on the Construction of Educational Systems, which he recently read before the Cambrian Society of South Wales and Monmouthshire. Within the space of twenty pages he deals of necessity very cursorily with a large topic, but his short paper is very full of suggestion. He strongly advocates, and with great force of argument, the inclusion of drawing as a compulsory subject in elementary education for the sake of its value as a discipline in the practice of accurate observation. The value of the faculty is a point upon which we have frequently insisted in these columns, but it cannot be too often or too constantly pressed home. Indeed, our sense of the importance of the principle disposes us to be a little critical of the way in which it is enforced, and, therefore, inclined to call in question some of the illustrations in which Dr. Owen has expressed his meaning. He is very severe, for example, upon vague colloquialisms, such as "some considerable time," and the like, which he would desire to replace by definite measures of duration or other exact expressions. But it is quite possible to be over precise in language, and to sacrifice accuracy or even truth to precision. The man who will not have recourse to vague and general terms when his ideas or recollections are indefinite is not only one of the worst sinners against propriety of expression, but also one of the most helpless victims of mental obscuration. To say "seven" when one means "many" is graphic, but it is not exact; on the contrary, it is as inapt a figure of speech as the reciprocal fault of using indefinite language to express definite ideas, against which Dr. Owen inveighs. The fact is that it is easy to make even a strong point too strongly; but if due regard be had to the exigencies of thought, it is perhaps impossible to exaggerate the importance of cultivating those habits of clear perception and sharp definition which are naturally associated with exact and concrete forms of expression. Dr. Owen's discourse has been written with a view to influencing the minds of those who will have to shape the curriculum of the contemplated Welsh University if and when that hoped for institution comes to be a realised fact. It certainly appears to us that his distinct perception of the utilities of the various systems of education, and his broad-minded appreciation of what is of solid excellence in them all qualify him in a high degree to speak with authority and persuasive force upon the subject which he has taken in hand.

TYPHOID FEVER AT MILAN.

THE note of warning addressed last week to the travelling public in the Alta Italia as to the grave prevalence of enteric fever at Milan came not an hour too soon. The *Nazione*, reporting on the sanitary condition of that much-frequented tourist entrepôt, says: "Typhoid, diphtheria, and scarlatina have appeared in force over a great part of Milan, but especially in the quarter of the Porta di Genova. The health of the city is more than usually compromised." The water-supply, as we have from time to time pointed out, is clearly to blame for this state of things, so discreditable to an industrial centre boasting the wealth and enlightenment of the Lombard capital. Wells sunk in the subsoil of the level plain on which it stands become easily impregnated with organic impurities, and make the drinking water supplied from them to the hotels and *pensions* a ready source of disease and death. Milan, on the admission of her best sanitary engineers, can avert this danger by bringing her water-supply from the neighbouring Alps by means of an aqueduct; and no satisfactory reason has yet been put forth for the postponement of so urgent an undertaking.

THE REGULATION OF OVERHEAD WIRES.

THE regulations issued by the Board of Trade with regard to the management of electric cables and conducting wires have given rise to considerable dissatisfaction among the firms engaged in this branch of industry. At a meeting lately called to discuss the matter it was agreed to petition the Board to reconsider its decision, the present arrangement being, it was alleged, such as to threaten very serious injury to trade interests without ensuring any adequate gain on the side of public security. The rules particularly objected to were Nos. 9 and 12, which refer to high-pressure aerial conductors. The former provides for each conductor a minimum thickness of one-tenth of an inch of protected insulating material, to be increased in proportion to the electric pressure. The latter requires that every conductor shall be fixed by non-metallic ligaments to suspending wires, so that there may be no stress upon it in the direction of its length; that it shall be received at points of support by highly insulating material, and so attached that if broken it shall not fall clear of the support. The cost entailed by these arrangements will indeed be no trifle, and we cannot therefore wonder at the protest issued by the companies interested. At the same time the Board of Trade can hardly be blamed for using every precaution to prevent the possibility of accident. The matter is clearly one for mutual reconsideration; but if after

further discussion the almost prohibitory rules above stated be not modified, it will be for electricians to consider whether overhead wires should not be dispensed with in favour of those carried underground. Such an arrangement, if carried out, would do away with the inconvenience associated with the work of inspection advised by the County Council, and recently advocated, though without success, in the House of Commons. Under the present system, again, it is not to be supposed that a householder whose roof or gable supports a wire, and who pays for the risk of fire which he is thus made to accept, should be appeased without compensation. This would be avoided by the use of electric subways. Public and private convenience and safety would thus be equally provided for. According to one of the speakers in the recent debate telephone conductors cannot be made to travel underground, though the reason for this is not readily apparent. In the case of the lighting current no such objection can be urged. This aspect of the question, therefore, deserves very careful examination, not only on the ground of common security, but even on that of economy.

A DRESS REFORM LEAGUE.

THE close relation between health and wholesome dress need hardly be insisted on. It does not, indeed, find adequate expression in the clothing of the present day, but this is rather to be attributed to the helplessness engendered by custom or to an immovable conservatism than to any desire to dispute the truth of the proposition above stated. It is, therefore, most satisfactory to learn that a new league is in process of formation, which has for its object the reform of women's dress. The supporters of this association believe that it is possible to introduce radical changes into existing modes of clothing without sacrificing what is due either to health, comfort, or grace. They maintain very sensibly that the problem with which they are concerned "can only be solved on broad principles, allowing the maximum of variety" in styles of dress. Among these principles are the following:—1. Compression of the waist by a corset involves undue pressure, and especially in the case of growing girls ought to be discontinued. 2. The limbs, upper and lower, should be so clad as to allow them the freest possible movement. 3. Clothing should be so light and so supported on the body as to make the least possible demand on the strength of the wearer. In order to attain these ends, they observe, it should not be needful to carry out any marked alteration in the outer clothing, and a woman thus rationally attired will not exhibit any other peculiarity than the charm of more supple grace possessed by a figure draped with due regard for its natural outline. We observe that, in the scheme of work published on behalf of the league, no allusion is made to head or foot coverings. This is evidently an unintentional omission which further consideration will remedy.

THE POLICE AND THE PREVENTION OF CRUELTY TO CHILDREN.

A LIBERAL measure of praise is accorded to the metropolitan police force in the report recently submitted to the late Chief Commissioner, Mr. Monro, by the National Society for the Prevention of Cruelty to Children. It is clear from the statement here presented that the promise of coöperation embodied in the Police Order of March 25th, 1889, has been faithfully kept. It is no less evident that the Society and the Act which guides its procedure have done much during the past year to justify their existence by the work which their joint action has promoted. Between March, 1889, and March, 1890, some 285 offences against children have been reported by the police. Of these 119 cases have been taken into court, and 105 have resulted in conviction. The remaining 166 have not been proceeded with, and thus illustrate a standing rule of the Society that all offences which can possibly be dealt with out of court by warning or otherwise must be so provided for. The term ill-usage, as applied to children, is divisible into several primary sections. The majority of cases fall under the heading of assault, neglect, and starvation. In this connexion it is an instructive fact that while the detection of a large proportion of assaults has been due to police assistance, the knowledge of more subtle injury, wrought by neglect, and happening within the so-called home, has usually come through other channels. Child begging and exposure of children by professional beggars form a somewhat smaller but once important class of offences. It is highly significant of the good already accomplished by the Cruelty Prevention Act that, since the date of its passing, the number of such cases reported has been diminished by more than two-thirds. This result is undoubtedly due to the fact that now the parent is regarded as the chief offender, and is punished accordingly. In regard to this and other misdemeanours the help of police information has been of especial value in preventing the reappearance as such of the "first offender" and in securing his conviction. Our space will not admit of a more detailed examination of many matters explained in this paper, but we may safely assert that its pages contain the evidence of much good and little if any public inconvenience brought about by the coöperation above mentioned and gratefully acknowledged by the Society.

SUSPECTED CHOLERA CASE AT NAPLES.

A ROMAN correspondent writes: "Genuine alarm has just been caused at Naples by the death, apparently from cholera, of a working man, Giugliano by name. The quarter in which the case occurred was one which was severely visited in the terrible outbreak of the autumn of 1884—a fact which gave additional urgency to the investigations made on the spot by the municipal commissioners, Drs. Armanini and Di Vestea. It turned out that Giugliano had for ten days been subsisting on rancid *pasta* in the shape of macaroni, which was followed by purging of a seemingly dysenteric character. Notwithstanding these symptoms, the unfortunate man had the evening before he died eaten largely of potatoes and onions in a semi-cooked condition. In consequence, he grew worse, with the fatal result referred to. Bacteriological examination, however, satisfied Drs. Armanini and Di Vestea that the case was one, not of Asiatic cholera, but of very severe cholerine. The sanitary authorities, none the less vigilant in their precautions, caused the man's house to be isolated, cleaned out, and disinfected, and destroyed every vestige of bedding and clothing in it. A strict watch is being kept for any similar cases which may occur in the same rather squalid neighbourhood, with the object (among others) of allaying the panic which, in previous outbreaks, assisted so disastrously in spreading the disease."

EXPERIMENTS ON THE MOTOR AREAS IN THE BRAIN OF THE ORANG-OUTANG.

DR. BEEVOR and Mr. VICTOR HORSLEY have recently communicated to the Royal Society an account of the investigation which they have concluded on the excitable portions of the brain of the orang-outang. This animal was selected owing to the fact that its brain approaches the human type more closely than the brains of other monkeys. The exposed cortex was mapped into little areas two millimetres square, and each of these was stimulated by a minimal induced current, the current required being much stronger than in the investigators' previous experi-

ments on the bonnet monkey (Macacus sinicus). As the result of these observations they found the excitable region of the cortex to occupy much the same position as in the bonnet monkey, and that the various parts of the body (face, arm, &c.) were represented in the cortex in much the same plan as in the lower species. It was observed, however, that in the orang-outang the representation of each limb and segment was much more clearly differentiated, so that stimulation of one point rarely produced more than one movement, and that of one segment, as, for instance, flexion of the elbow. Frequently round one of these "motor areas" would be a zone of inexcitable cortex, thus marking off one area very definitely from the next. Probably in man a similar condition holds, judging from the effects of the electrical exploration of the human cortex for diagnostic purposes in a few published cases in this country and in America. Dr. Beevor and Mr. Horsley also exposed and stimulated the internal capsule in the orang-outang, and found that the fibres from the different parts of the cortex have exactly the same relations as in the bonnet monkey. An abstract of their observations on this animal was recorded in THE LANCET of Dec. 28th, 1889.

INFANT LIFE INSURANCE.

THE question of infant life insurance has been brought prominently under discussion by the debate which recently took place in the House of Lords upon the second reading of the Bishop of Peterborough's Bill, and the article in support of that proposed legislation which the Reverend Benjamin Waugh has contributed to the current number of the *Contemporary Review*. The question is one of the very highest importance, for if one-half of what is alleged by the supporters of the measure can be substantiated upon inquiry, then it cannot be denied that an irresistible case for legislation has been made out, and the only fault which disinterested parties are likely to find with the Bishop's Bill is that it does not go far enough. We cannot, however, forget that when this matter was investigated by a Parliamentary committee last year the representative of the largest of the insurance offices doing this class of business adduced some very striking statistics to show that the mortality among insured children was not heavier, but lighter, than among the uninsured. These statistics have not yet, so far as we are aware, been answered. The advocates of the measure now under discussion have indeed criticised them very severely, and have suggested that serious errors have been committed in their preparation. But criticism so trenchant as this requires to be sustained by a more minute examination of the incriminated statements than we have yet seen. The conclusion reached by the Royal Commission on Friendly Societies in 1874 was that infant life insurance, if badly administered, was a mischievous thing; but that where it was in the hands of well-administered societies it was not harmful, but, on the contrary, beneficent.

THE LORDS COMMITTEE AND LOCK HOSPITALS.

UP till the present time but little evidence has been tendered before the Lords Committee as to lock hospitals. Allusion was made by Sir Sydney Waterlow as to the treatment of venereal diseases in St. Bartholomew's Hospital, and Dr. Henry Selfe Bennett, who gave evidence at the last meeting of the committee, mentioned lying-in hospitals, dental hospitals, and others as justifying their existence as special hospitals, but he omitted all reference to lock hospitals or lock wards. That evidence respecting these will be both tendered and accepted may, we trust, be taken for granted, since the present inquiry would, without such evidence, be very incomplete. Venereal diseases are always prevalent more or less throughout the length and breadth of these kingdoms, and in large centres of population, such as London, Edinburgh, Dublin, Glasgow, Liverpool, Manchester, and other places too numerous to specify, a special hospital for patients suffering from these diseases is imperatively required. For not only is it desirable that patients suffering from gonorrhœa, syphilis, and their sequelæ, and unable to pay for medical attendance, should have the benefits of hospital treatment, but it is also of great importance that these diseases should be carefully studied by all medical students under the guidance of skilled teachers. These facts, which are palpable to medical readers, are not equally so to laymen, even to those laymen who are familiar with hospitals in general. It also unfortunately happens that the question of venereal diseases is surrounded by difficulties quite peculiar to them, and involves matters of a specially delicate nature, bound up with, though not absolutely dependent upon, the diseases themselves. It is, therefore, most important that evidence should be given before the Select Committee by some of the surgeons attached to the London Lock Hospital, as well as by other hospital surgeons who have made these diseases a special study. The result would go far to show that these diseases prevail in sufficient number, and are of so grave a character as to justify hospitals for their reception; and that their reception in any but special wards is out of the question. Lock wards can only be satisfactorily conducted in connexion with general hospitals when they are placed in a separate building or wards, and with every arrangement for the complete isolation of the patients from the rest of the hospital. Another point of great importance which should be brought before the committee is the large number of married women, widows and children, who are the innocent victims of those who have infected them with these diseases. While as for those who have brought these diseases upon themselves by vicious conduct, it must be remembered that general diseases are an accidental rather than a necessary accompaniment of sexual vicious indulgence. It is neither charitable nor politic to leave women, harlots though they be, to aggravate their own sufferings and to spread these diseases without affording them the opportunity of treatment in hospital, the only really efficient way of curing them. Nor can any justification be found for refusing hospital treatment to male patients suffering from these diseases; a man with a sloughing chancre, a node, syphilitic iritis, &c., should be an object of charity as well as the man suffering from a fractured limb the result of a fall while drunk. Those who regard such patients as unworthy of charitable relief forget or ignore the example of the Great Physician who went about healing all manner of sickness and all manner of disease among the people without any reference to the character of the sufferers or the cause of their maladies.

LOCAL GOVERNMENT IN LONDON.

A CONFERENCE of the vestries and district boards in the metropolis was held last week to consider, amongst other questions, the readjustment of London administrative areas. The interval which has elapsed since the passing of the Local Government Act has given ample time for existing local authorities to think of their own preservation, and Chelsea, which from its peculiar situation as a district might anticipate modification, has in London therefore taken the lead in enunciating the principle that the boundaries of existing administrations should be altered only where necessary to secure efficient administration. A resolution to this effect was adopted on the motion of Sir Charles Dilke. A rider was proposed that the areas should always be coterminous with either one of a group of Par-

liamentary boroughs or electoral divisions of the county, but this did not find equal favour with those attending the meeting. No doubt there would be an advantage as far as possible in maintaining the existing local administrative unit, but many of the London districts are so small that they must be merged in a larger area if any attempt is to be made to bring about a reasonable system of government. With the other resolutions which followed we have much sympathy, especially those which would tend to increase the importance of the work of the district councils. Thus the opinion was expressed by resolution at this conference that the time had arrived for consolidation of the various functions of overseers, assessment and valuation committees, and burial boards under district local authorities, elected on a wide franchise; also that the functions of the baths and washhouses commissioners, and of the public library commissioners, should be merged in those of the district councils. It is obvious that only by such means can it be expected that men of ability and independence will be tempted to share in district government. If London is to be properly governed, we hope that the district councils will be given large powers of control, and that the central body will be as little burdened with detail as possible.

WHAT IS A TRADE NUISANCE?

STRATFORD people are complaining of the nuisance caused by offensive factories in their midst, and it is admitted on the authority of a West Ham alderman that "there are stinks." But, on the other hand, it is contended that with its "stinks" the place is healthy. That, however, need not be here discussed, for it is beside the question. When the Public Health Act, 1875, was framed the little word "and" in the sentence "a nuisance *and* injurious to health" in the former Sanitary Act was advisedly changed, and the clause now runs: "a nuisance *or* injurious to health." This did not suit some manufacturers, and the matter was fought out in the Exchequer Division of the High Court of Justice in the case of the Local Board of Malton against the Malton Farmers' Manure and Trading Company. One of the questions submitted was as follows:—"Was it necessary on the part of the appellants to prove, as part of their case, not only that a nuisance was caused by the effluvium, but also that it was injurious to the health of the inhabitants of the district?" Lord Chief Baron Kelly, in giving judgment in favour of the Local Board of Health, said that it "is not necessary that there should be an injury to the health of the inhabitants generally;" and Mr. Justice Stephen, agreeing as to the verdict, laid it down that "the word nuisance must mean any nuisance connected with the carrying on of any offensive trade specified, and that the diminution of comfort thereby is one of the nuisances included in the Act." On the principles involved in this judgment the Stratford complainants could probably take action with success, and they should be supported by those elected to look after the public health in the district.

THE STAFFORDSHIRE GENERAL INFIRMARY.

As briefly mentioned in our columns last week, the Earl of Shrewsbury and Talbot has generously given a site for the erection of a new county infirmary for Staffordshire; and we are glad to find that the committee of the infirmary have boldly faced the difficulties of dealing with the question of their county hospital by having practically resolved to erect a new one on a new site. Before coming to this decision they sought the advice of Mr. P. Gordon Smith, whose experience in dealing with similar questions in his official capacity as architect to the Local Government Board is necessarily very extensive, and whose report upon the adaptability of the present infirmary as a good hospital, the fitness of its site for the purpose, the eligibility of certain other available sites, and the probable cost of a new infirmary, has guided the governors in coming to a decision in the matter. The present building was erected in the last century, and Mr. Gordon Smith found but little difficulty in proving its utter unfitness for future service as a place for the reception and treatment of sick people. The site, too, appears to be justly condemned, owing to a large portion of it being liable to flooding from the adjacent river, and to the nearness of the ground water to its surface. The site that is now decided upon for the new building is in Mr. Gordon Smith's opinion an eligible one for the purpose, and we gather that this opinion is fully endorsed by the present medical and surgical staff of the infirmary. Upon the question of cost, Mr. Gordon Smith considers that such a building as is needed, and which will contain an out-patients' department and the usual administrative offices for a hospital of some eighty beds, will involve an outlay approaching £200 a bed. This estimate may perhaps be considered a large one, but modern experience of the cost of hospitals that are to be and to remain efficient and wholesome goes to show that it would not be safe to rely upon a much lower estimate. Mr. Gordon Smith has advised the committee to make the new building as complete and perfect as possible in all in its arrangements, and if the funds available are not sufficient to allow of the whole being erected at once, the best plan would be to draw up an entire scheme, but only to proceed with so much as can at the moment be properly and efficiently completed. The report goes on to urge that when a first instalment has been finished and its usefulness fully recognised, the need for further accommodation would act as an incentive to the raising of the balance necessary for completing the building. The committee and governors are, we think, to be congratulated on the course they have adopted. Care should be taken to secure such a design for the new building as shall embrace the best recognised principles of modern hospital construction, and experience gained at other recently built institutions of this kind may well be utilised for the purposes of Stafford.

DIPHTHERIA IN PADDINGTON.

AN interim report has been submitted to the vestry of Paddington on the recent occurrence of diphtheria. It is, as we expected, clear that the water drunk at the Paddington Recreation Ground had no concern in the matter. Many are known to have drunk it with perfect impunity; two of the boys attacked with diphtheria did not drink it at all; and all modern experience is opposed to water having acted as the cause of an outbreak such as occurred in Paddington. The story, as far as can be ascertained, points much more strongly to the existence of unrecognised but infectious sore-throats in the school which was affected; indeed, the reporters distinctly imply that they had failed to trace out the beginnings of the mischief in the school. The great severity of the outbreak is much to be deplored; and in this connexion it is a curious coincidence that several of the boys who had fatal attacks had suffered from measles within from one to two weeks of the time, when they sickened with diphtheria. Efforts have been made to see how far local conditions of defective drainage had an influence on the occurrence, but the facts as reported convey no distinct evidence of these conditions having acted as a cause of the disease. Extended investigation is promised, but it is doubtful whether anything will be elicited which will set aside the view as to the outbreak being due to personal infection facilitated by the occurrence of early sore-throat attacks, so mild that their true character passed unrecognised. The same thing has

happened again and again in schools, and those responsible for such establishments can never be too stringent in seeking out all throat ailments, and in treating them all as potentially infectious.

With regard to the mortality from diphtheria in this district of the metropolis, it is not without interest to note the precise evidence afforded by the Registrar-General's returns. From a table given in the Registrar-General's Annual Summary for last year it appears that in the year 1887 the deaths referred to diphtheria in the Paddington sanitary area (including those of residents of the district) occurring in hospitals situated outside the district, were 29. In 1888 the deaths from this disease in Paddington rose to 72, whereas in 1889 they declined again to 42. Since the beginning of this year 8 fatal cases in the thirteen weeks ending March 29th, and 9 in the following thirteen weeks ending Saturday, June 21st, have been recorded. Thus the mortality from this disease in Paddington during the current year has been at a considerably lower rate than that which prevailed either in 1888 or 1889. It would, moreover, appear that, notwithstanding the unfortunate cases that have attracted so much attention, the mortality from this disease in this sanitary area has not recently showed a marked excess, whether compared with other parts of London or with recent corresponding periods in Paddington.

THE STATE OF THE RIVER MERSEY.

A FATAL CASE of enteric fever having occurred amongst a set of labourers employed on the works of the Manchester Ship Canal, and the cause of the disease having been investigated by Mr. J. M. Fox, medical officer of health for Mid-Cheshire, the conclusion arrived at is that the mischief was induced by the putrid emanations from the river Mersey; and, apparently anticipating the criticism that a noxious influence of this sort would be more far-reaching than to cause a solitary case of enteric fever, Mr. Fox points to the acclimatising influence of foul effluvia upon those long exposed to them, and adds that the patient in question had only recently arrived in the district, and had, indeed, sickened within fourteen days of exposure to the Mersey atmosphere. Whatever the cause of the disease may be, good use is made of the unfortunate occurrence by Mr. Fox, who calls attention anew, to the need of putting the Mersey into "a condition of decency." The river is in places a vast and hideous sewer, and the immense local industries seem to act almost as if they had acquired the right to continue to add to the fouling process. Here is work for County Councils, and here is work that might alone occupy a large amount of time on the part of the Lancashire medical officer of health acting in concert with his future colleague for Cheshire. Mr. Fox also does well to call attention to the costliness of preventable disease. In this case a life having distinct financial value has been thrown away, and at least one person dependent on the man who has died will now probably have to be maintained at the public cost.

OUR STREETS.

THE question of road making is undoubtedly one of considerable importance to the community at large, and has an obvious hygienic bearing. A good road is one of the necessities of the age in which we live; but notwithstanding the various improvements in the methods of road making our streets are still in an unsatisfactory condition. The old style of road making by means of round granite balls over which vehicles bounded and bumped, a plan which has not yet become extinct even within the City boundary, was many years ago succeeded by the square blocks of granite, which cannot be said to have been satisfactorily superseded by any of the more recent "improvements." Wood pavement, with its slippery slush on rainy days, appeared in due order, quickly followed by asphalt, which now forms a skating rink alike to nimble youths and worn-out horses. So with all our change, we are yet dissatisfied, for we are still behind the necessities of our time; and it is therefore with interest that we view any new proposal for the improvement of our roadways. At a recent meeting of the members of the Inventors' Institute a paper was read by Mr. D. Nicol, who, we are informed, has devoted nearly a quarter of a century to the subject of roads. In the course of his paper he described a new method of road-making, which in a less perfect form has been tested at Leicester with considerable success. It may be described as consisting of "blocks of granite (5in. × 3in.) wrapped, except on the upper surface, with waste fibre and an elastic bituminous compound, the whole of which is brought together into a homogeneous condition while resting on a continuous pad formed of the same substance. This continuous pad or slab is taken to the ground and unrolled over the usual surface of concrete; the blocks are then placed diagonally, and by a powerful lever made to join together." By this method it is claimed that horses obtain a much better footing, that there is comparatively little noise, mud, or dust, and that it is also less expensive than some other methods. Several gentlemen interested in road paving have examined the models, and have expressed their approval. We venture to hope that this new method will have a fair trial, and that the London County Council, to whom the Inventors' Institute has recommended the invention, will take an early opportunity of testing the accuracy of what is claimed for it.

BERLIN MEDICAL CONGRESS.

THE surgical section has agreed to assemble for their first meeting on Tuesday, Aug. 5th. The meetings will be held in the chief building close to the station Lehrter Bahnhof. Professor Ollier (Lyons) will read a paper on Surgical Osteogenesis, and Professor König (Göttingen) on Hydrops Tuberculosis of the Peritoneal Cavity. At the second sitting, Mr. Jonathan Hutchinson (London) will read an article on the Surgical Treatment of Intussusception, and Professor Billroth (Vienna) on the Resection of the Stomach and Intestines illustrated by the results of his own practice. At the third meeting Signor Bottini (Pavia) will deliver a lecture on the Treatment of Enlarged Prostate and Mr. Iverson (Copenhagen) on Modern Operations for Cancerous Diseases of the Rectum. On Friday, August 8th, Mr. Senn (Milwaukee) will submit a paper on Gunshot Wounds, and Mr. Lewschin (Kasan) one on Urinary Calculus. At the last meeting of the section Señor Rubio (Madrid) will read a paper on a new method of Excision of the Head of the Femur.

EVIDENCE OF NURSES AT THE LORDS' COMMITTEE ON HOSPITALS.

THE very serious allegations which have been made to the House of Lords' Committee concerning the nursing arrangements at the London Hospital will no doubt receive, both at the hands of the Committee and of the hospital authorities, the consideration which is due to matters of such great importance. The evidence which was taken on Monday last presented only one view of the subject; for, although several persons gave concurrent testimony, they appear all to have approached the question from the point of view of the nurse who feels herself aggrieved. We make this remark not at all by way of disparagement of the evidence which they gave, but merely as preface to the further observation that it will be no more than simple fairness to reserve the expression, and, as far as

possible, even the formation, of an opinion on the questions raised until the evidence of the hospital authorities is heard in reply. To afford facilities for the ventilating of complaints is one main object for which the Committee is sitting, and we should be the last to blame anyone for taking advantage of these facilities. On the contrary, we fully recognise that to state publicly and distinctly on an occasion such as this the grounds of a just complaint is to render a substantial public service. But at the time of writing we have not received the report of what passed at the meeting of the Committee on Thursday last, and we trust that those who are responsible for the nursing arrangements at the London Hospital will be able to diminish the unfavourable impression which last Monday's evidence is calculated to produce. The charges of overworking their nurses, and neglecting their health, of providing them with insufficient and badly cooked food, and of sending out probationers in the capacity of trained nurses are such as will have to be met in one of two ways—by a satisfactory and convincing refutation if they are groundless, or by a radical change of system if they are well founded. Among the hospitals of London there is none that fills a more important place than the London Hospital. Dealing with a larger aggregate of patients than any other single hospital in the metropolis, and supplying the needs of a vast and densely populated district in the east end of the town, this is an institution which, perhaps more than any other, requires to be maintained at the highest standard of efficiency. The aspersions which have been cast upon it must, and we doubt not will, be answered; but whether by the disproof of the allegations or by the confession and removal of the cause of complaint, remains to be seen.

SWIMMING BATHS FOR LONDON.

THERE are few forms of benefaction by which a larger benefit could be conferred upon the population of London than by the enlargement and improvement of the very meagre facilities which the metropolis at present affords to bathers. In the matter of swimming baths especially the need is very manifest. Not only are such baths as we do possess "few and far between," but some of them labour under the additional disadvantage of being badly appointed and high priced. A hideous building with four blank walls, a dirty skylight, and a central hole filled with water is no inapt description of many of these structures. A saturated atmosphere, a confined dressing-box reeking with moisture, and an inadequate supply of fresh water complete the misery of the bather's surroundings. Yet poor as they are, these amenities are denied by reason of their cost to the great majority of the population, and can be enjoyed even by a large proportion of the frequenters of the baths only in strict moderation. The necessity is a very pressing one, and we are glad to learn that a committee has been formed having for its object to procure increased bathing facilities for School Board children. We wish them all success in their undertaking, not in the interest only of the very large juvenile constituency which they particularly represent, but also because the whole population of London is deeply concerned in the provision of improved bathing facilities.

THE PROPOSED HOME OF REST FOR NURSES.

THE scheme for providing a home of rest for nurses received fresh support at the meeting at Devonshire House last week, over which Princess Christian presided. The public are now invited to contribute the modest sum necessary to enable the executive committee to purchase a house and further the undertaking. The scheme which the promoters have in view is to facilitate the utilising by nurses of those brief intervals which occur when they are passing from case to case for the purpose of repose and recreation, and to provide a retreat where they may have the opportunity of recuperating when exhausted by overwork or enfeebled by physical derangement. No worthier object could be presented to the public consideration, and we make no doubt that the appeal which has been made will meet with a sympathetic response. The arduous and exacting duties which fall to a nurse's lot demand for their due performance not only a willing mind, but also a capable body, and hence it is emphatically true that the patient's interest is involved in the nurse's health. But this, although a forcible way of putting forward the public concern with this movement, is by no means the strongest argument which can be used in support of the project. The claims of nurses rest not alone, or even chiefly, on the importance and responsible nature of the duties which they undertake. The tenderness, patience, and self-forgetfulness which nurses habitually manifest in the performance of those duties, and without which success in their profession is impossible, constitute a much better title to good-will. And these are points of which the public does not lose sight. When it is once clearly understood that this excellent scheme will supply a keenly felt want and ensure for a most deserving class of women a boon, even a necessity, which they cannot provide for themselves, we have no doubt that the response will be both prompt and liberal. Indeed, our only anxiety is lest the committee may not be put in a position to commence their operations at once.

CHOLERA INTELLIGENCE AND PROSPECTS.

THE general tenor of the news as to cholera in Spain during the past week has been in the direction of indicating a subsidence of the outbreak in Spain, and yet there have been items of intelligence which have tended rather to encourage anxiety as to the future than the reverse. Thus, whilst at Puebla de Rugat and at Montichelvo, where the outbreak was most severe, there has been a marked abatement if not a cessation of the disease, yet rumours of fresh attacks and occasional deaths in other villages and localities have gone to show that the infection still remains and is capable of diffusion. Already some dozen places in Valencia have been referred to as having had cholera cases, the principal ones, in addition to the two already named, being Albaida, Beniganim, Sueca, and Gandia; and up to June 25th it was reported that there had been 196 attacks and 113 deaths in the province. Thus far the epidemic has not shown the same vitality as on some former occasions, and as it certainly cannot be said that this is due to the removal of those conditions which favoured the diffusion of cholera, it has been suggested by some that the infection being one of a local character, and not one imported from the East, it is of a less virulent type. On the other hand, not only are others convinced that the disease is foreign and imported, though the method of importation has escaped detection, but Spain itself is one of the countries that has before suffered from a comparatively trivial epidemic during the first year of the importation, and has exhibited a widespread diffusion during the next year. Therefore, even if the epidemic should now abate, no certainty can be expressed as to next year; and, apart from this, the season is not yet sufficiently far advanced to warrant an opinion that danger even for the present year has definitely passed away. Another cause for some anxiety is the official announcement made to the effect that a first case of cholera has occurred in France. The announcement may be contradicted, but it is alleged to have official authority, the attack having taken place at Cuxac, near Toulouse. And this occurrence is of the more

importance in view of the disquieting account given by Dr. Rochard as to the plans for amendment at Marseilles and Toulon during the period of panic in the last epidemic, and the abandonment of the whole when the immediate danger was gone. Such towns are, in short, as little prepared for cholera as when it last swept over them with such fatal violence a few years ago.

THE MIDWIVES' REGISTRATION BILL.

WHILE some legislation is inevitable to prohibit the practice of midwifery by ignorant and untrained women which leads to so much suffering, it is highly important that the Bill shall be so framed as to restrict midwives to cases of natural labour, and to discourage them from interference where the case is otherwise than simple. The profession will look to Sir Walter Foster, Dr. Farquharson, and other medical members of Parliament, to secure such amendments in the Bill as will secure these ends. In most countries where midwives are recognised, and their education prescribed by law, they are severely restricted to cases of simple and natural labour. It should certainly be so in the present measure. But if so, Clause 5 must be amended. This clause provides for the payment of midwives for "the performance of any midwifery operation." This would cover turning, or the use of forceps, or even the Cæsarean section, which surely were never meant to be sanctioned by such men as Sir W. Foster and Dr. Farquharson. We have but to look to the second clause of the Bill to see that the framers of the Act intended to create a class of midwives to attend only cases of natural labour. All the improvements in medical practice date from the inclusion of midwifery in the practice of regular physicians and surgeons, and it would be monstrous to confer on midwives, with their limited education and knowledge, the right to perform operations or attend difficult and instrumental cases without calling in medical assistance. We direct the attention of the medical members of Parliament to this important matter, and confidently look for their support of an amendment of Clause 5, of which notice has already been given.

FEMININE PHYSICAL ACCOMPLISHMENTS.

WE noticed with some degree of alarm in the columns of a contemporary recently that "another step is to be noted in the progress of woman. Henceforth the noble art of self-defence is to be included in the list of her many accomplishments." It is satisfactory, however, to find that this statement is merely alleged in regard to our fair American cousins, and is not yet applicable, so far as we can learn, to our countrywomen. Referring to another branch of sport which some of our English sisters are essaying, a correspondent in last week's issue of THE LANCET, in answering the question, "Should women play cricket?" addresses a word of warning to those who are desirous of adopting this game as a means of exercise and pleasure, and alludes to the risks resulting from the blow of a cricket ball on the mammary gland and its possible consequences. What has hitherto been called "the manly art" will, we hope, remain as at present in this country—an exercise for the display of masculine prowess and agility; and even in regard to cricket, we are inclined to recommend ladies, on physiological grounds, to be content with other pastimes and methods of physical improvement in which sudden muscular strain is avoided, and which are equally efficient for invigorating exercise and healthful pleasure. In reference to lawn tennis even, in most respects an admirable game for both sexes, a warning must also be given, as cases sometimes occur of unequal development with lateral spinal curvature in those who play excessively, owing to the too continuous use of the one arm. We have often drawn attention to the great necessity of systematic bodily exercise for women, as by such methods as that developed in Sweden by Ling, and now being adopted in our Board Schools. Although the fair sex are still unduly under the tyranny of conventionalism in regard to their amusements, yet we do not wish to see them too boldly imitating their brothers in all their games and physical accomplishments.

FOREIGN UNIVERSITY INTELLIGENCE.

Breslau.—Professor Mikulicz of Königsberg has been appointed Professor of Surgery.

Messina.—Drs. Mazzitelli and Ferrari have been promoted respectively to the Professorships of Dermatology and Pathological Anatomy.

Munich.—Dr. Angerer has been promoted to be Professor of Surgery.

Palermo.—Dr. Angelucci has been promoted to the Professorship of Opthalmology.

Salamanca.—Don José Lopez Alonso, editor of *El Correo Médico Castellano*, has been appointed to the Professorship of Clinical Medicine.

Siena.—Dr. Barduzzi has been promoted to the Professorship of Syphilis and Dermatology.

Tomsk.—As it is now about two years since this University, which so far only contains one faculty—the medical—was opened, several professorships connected with subjects required by third and fourth-year students are being filled up. Dr. Albitski has been appointed to the chair of General Pathology, Dr. Vinogradoff to that of Pathological Anatomy, and Dr. Rogovich of Kieff to that of Surgery. The clinical wards are nearly finished, and will be ready for the reception of patients at the commencement of next session.

Vienna.—Dr. E. von Braun has been recognised as *privat-docent* in Midwifery and Gynæcology.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. E. Hornemann, formerly Professor of Hygiene in Copenhagen; Dr. Verbitski of Luga; and Dr. Meyhœffer of Nice.

ACCORDING to a proposal recently made by the French Minister of Public Instruction, the lower grade of medical practitioners, *officiers de santé*, is to be abolished, and there is to be a single State examination, which will be the same throughout France. Foreigners will have to undergo all the examinations in order to obtain the licence to practise.

A MEETING of the General Council of the British Nurses' Association will be held on Friday, the 11th inst., in the rooms at Hanover-square, to receive the report of the Executive Committee and the financial statement, and to consider business relating to Rules for the Pension and Benevolent Funds.

IT is particularly requested that those who intend to take part in the approaching Congress at Berlin should, in order to spare themselves time and trouble hereafter, apply forthwith for their cards of membership, which can be obtained from Dr. Bartels, Leipzigerstrasse 75, on payment of the subscription (20s.).

THE second Report of the Royal Commission on Vaccination has been agreed upon, and is expected shortly to be published.

DR. PAVY was on Tuesday, the 24th ult., presented by the students of Guy's Hospital with a handsome piece of silver plate, on the occasion of his retirement from the office of senior physician. The presentation took place in the anatomical theatre of Guy's Hospital Medical School

---

SIR JOHN LUBBOCK and other gentlemen have presented a petition to the Queen in Council, praying for the grant of a Charter of Incorporation as the President and Governors of the Royal London Ophthalmic Hospital.

THE forty-ninth annual meeting of the Medico-Psychological Association will be held on Thursday, July 24th, at the Royal Asylum, Gartnavel, Glasgow, under the presidency of Dr. Yellowlees.

Pharmacology and Therapeutics.

ANILINE AS A THERAPEUTIC AGENT.

As is well known, Professor Kremianski of Kharkoff has for some years advocated the employment of aniline as an inhalation in phthisis because of its great microbicidal power. He continues to practise this method, as he says, with considerable success, and has just published a fresh brochure on the subject in which he details an interesting recent case in which, he states, it proved most beneficial, and he describes a new and more convenient form of inhaler. His methods have hitherto found but little general favour, it having been stated by some observers that the inhalation of aniline was very dangerous. Dr. Kremianski has, however, always denied this, declaring that aniline, if pure, is practically non-poisonous, and this view has been confirmed by the researches of Professor Stilling of Strassburg, who has just published an important work on the subject of aniline colours as antiseptics and their employment in practice. He finds that the most antiseptic of these colours is the violet, which is known to microscopists as methyl violet. A solution of this of the strength of 1 in 1000 can be injected under the skin of a guinea-pig to the amount of twenty cubic centimetres, or more, without causing any hurt to the animal. Half that quantity, however, if injected into the peritoneal cavity proves fatal, the viscera, and especially the kidneys, with the exception of the Malpighian corpuscles, being coloured blue. A few drops of the solution instilled into the eyes of rabbits coloured the conjunctiva, but left the cornea—if this were uninjured—unaffected, the colouration disappearing the next day. Professor Stilling then employed this solution with marked success for the treatment of many eye and other diseases, including scrofulous ulcers of the cornea, conjunctivitis, eczema of the lids, parenchymatous keratitis, serous iritis, disseminated choroiditis, sympathetic ophthalmia, whitlow, varicose ulcers of the leg, &c. A pure form of methyl violet for surgical purposes is now manufactured under the name of pyoktanin. It is only right to add that Dr. Mauthner of Vienna has just published a statement that he has been quite unsuccessful in his trials of this substance in a number of eye cases similar to those in which Professor Stilling has recorded such favourable results.

THIOL IN SKIN DISEASES.

Prof. Schwimmer, of Buda Pesth, has used thiol, a substance very similar to ichthyol, but free from unpleasant odour, and made by heating gas oil with sulphur, in a large number of skin diseases with remarkable success. In herpes zoster, acne simplex, and rosacea, in moist eczema and in burns, he paints the affected part with a solution in distilled water, of the strength of 1 in 4, twice a day, not washing the application off for two or three days. In some long-standing cases the washing is still longer delayed. In some cases an ointment (1 in 3) was employed, and in some the dry powder itself.

NAPHTHOL MIXTURES.

Naphthol is being now prescribed internally for intestinal and other disorders, but it is somewhat difficult to find a suitable vehicle for it, as, when mixed with water, it mostly floats on the top, and when dissolved in alcohol or glycerine, and added to an aqueous mixture, it is likely to be precipitated. A French pharmaceutical journal remarks that the best plan is to dissolve the naphthol in ten times its weight of oil of sweet almonds by means of a gentle heat. This can then be made up with mucilage and syrup into a perfectly homogeneous emulsion.

ARISTOL IN OZÆNA.

Iodide of thymol—or aristol, as it is called—is strongly recommended by Dr. Löwenstein, of Elberfeld, in ozæna. He gives in the *Internationale Klinische Rundschau* several cases in which this remedy proved more efficacious than any other. In one case the patient, who had previously been treated with iodoform, would have been discharged from his employment on account of the smell of the drug; aristol was then employed with the most satisfactory results, the fetor vanishing, the ulcerations healing, and the scabby crusts ceasing to form. Dr. Löwenstein makes use of insufflations, which answer very well, as aristol is a fine powder. He also paints ulcerated spots with a mixture of 1 part of aristol in 10 parts of flexile collodion. It is necessary to keep aristol in a dark glass bottle, as it is easily acted on by light. It may be remarked that it has a very slight but not unpleasant odour, and that it is remarkably cheap.

METHYLENE BLUE AS AN ANALGESIC.

Professor Ehrlich and Dr. Lappmann have found that methylene blue, when perfectly free from chloride of zinc and all other impurities, is a valuable and safe remedy for relieving pain of various kinds. They have given as much as fifteen grains in the day in gelatine capsules without producing any toxic symptoms. The usual doses were from a grain and a half to four grains internally, and one grain hypodermically. The remedy was employed in twenty-five cases of painful nervous affections, and rheumatism of the muscles, tendons, and joints, and in every case it proved more or less efficacious. In two cases of migraine, also, it was very successful. In many ways this substance appears to act similarly to antipyrin, over which it has the advantage of cheapness, and of the hypodermic injection being painless.

HYDRACETIN.

Dr. E. Basch has carried out some observations on the use of hydracetin in skin diseases, and finds himself unable to agree at all fully with the laudatory accounts which have been given of its action by some other observers. He finds that it is decidedly poisonous, even when applied externally. In a case of general psoriasis, where a 10 per cent. ointment was applied to a third of the surface of the body, after ten days' treatment the skin and mucous membranes became quite pale, and though the hydracetin was then stopped hæmoglobinuria and jaundice supervened. The pulse became very rapid, but notwithstanding the constitutional action of the drug the psoriasis was not benefited. Dr. Basch finds that hydracetin, though a powerful reducing agent, and useful in small patches and limited areas of psoriasis, has by no means the specific effect that pyrogallol and chrysarobin seem to possess.

PHYSIOLOGICAL EFFECTS OF CHLORALAMIDE.

Dr. Malakhovski, in order to study the physiological action of chloralamide, has made an elaborate series of experiments on more than sixty frogs, dogs, and rabbits. He finds that chloralamide is only poisonous to frogs when given in very large doses. It disorders the coördinating apparatus after having first diminished the reflexes; it diminishes the tendency to movement, producing a condition of quiescence; it first slows and ultimately paralyses the respiratory movements. The heart's contractions appear at first to be strengthened, but cardiac paralysis is ultimately produced. In warm-blooded animals—dogs and rabbits—sleep is induced by action on the brain, the irritability of both brain and spinal cord being diminished. As in frogs, there is interference with the coördinating apparatus, and this is due to action on the central nervous system. The reflexes are diminished from action on the reflex centres situated in the spinal cord. The blood pressure is lowered from a paralysing action on the vaso-motor centre. The heart's beats become more rapid from action on the central cardiac inhibitory apparatus. The irritability of the respiratory centre is increased. The temperature is lowered both because of diminished loss of heat from the surface of the body and because of a decrease in the generation of heat. In the case of dogs the gastro-intestinal system was affected.

HEALTH REPORT OF INDIA FOR 1888.

No. I.

THE report of the Sanitary Commissioner with the Government of India for the year 1888 states the strength of the European troops, exclusive of those employed on active service in Upper Burmah during the first three months, to have been 68,887, the admissions into hospital to have been in the ratio of 1382, the deaths 14·84, the invaliding 23, and the daily sick 71·2 per 1000. These are all slightly higher than in the preceding year; but the difference arises from the force on field service in Burmah being included for the last nine months of the period now under review, while it was omitted entirely from the previous period. We confess we are at a loss to understand why the first quarter of 1888 has not been incorporated in the general return, as well as the succeeding three-quarters; had this been done the admissions would have been 1415, and the deaths 14·97 per 1000, which would have correctly stated the sickness and mortality of the European troops for the whole year.

The following table shows the relative health of the European troops in the three presidencies, exclusive of those in Upper Burmah for the first quarter; the report does not furnish the information required for the correction of this omission in each presidency.

Average Ratio per 1000 of Strength.

Presidency.	Strength.	Admissions.	Deaths.	Mean sick.
Bengal ...	42,858 ...	1398 ...	15·47 ...	70·5
Madras ...	14,147 ...	1341 ...	15·55 ...	76·9
Bombay ...	11,882 ...	1372 ...	11·70 ...	67·2

With the exception of the admissions in Bengal, and the deaths in Bombay, these ratios are all higher than in 1887, but the exclusion of the troops in Upper Burmah in that year renders the comparison inaccurate. In Bengal the increase in the deaths has been chiefly caused by enteric fever, heat-stroke, hepatitis, and injuries. In Madras there was an increase in the mortality by cholera and remittent fever, with a moderate decrease in that by enteric fever, and in Bombay a marked decrease in deaths by cholera, but an increase in those by enteric fever. Enteric fever was, as usual, the most fatal disease among the troops, the deaths by it having amounted to 25 per cent. of the whole. The admissions by it from the European force were 13·6 per 1000 of strength, and the deaths 3·75, or one death in nearly 3⅔ cases. In Bengal, the proportion of cases and deaths by this form of fever was 16·2 and 4·15; in Madras, 7·4 and 2·26; and in Bombay, 11·6 and 4·04. These are all higher than in the preceding year, and considerably in excess of the decennial average; but the Sanitary Commissioner is of opinion that the difference is "more due to change of fashion in diagnosis than to actual increase in the disease, though that may have contributed also."

In the beginning of the year a committee was appointed, consisting of the Sanitary Commissioner with the Government of India, the Principal Medical Officer of the British Forces in India, the Sanitary Commissioner, Central Provinces, and the Professor of Physiology, Medical College, Calcutta, to inquire into the alleged increase of enteric fever in the army in India. The principal results arrived at by the committee are given in this report. It is stated that during the last eleven years there has been a great reduction in the prevalence of remittent and simple continued fevers and a very marked increase in that of enteric fever, and that the prevalence of both "exhibits periodic fluctuations manifesting themselves over widely extended areas, and due to the incidence of widely diffused factors, the principal of which appear to be variations in the numbers of a specially susceptible population and cyclical variation in climatic conditions." There has been in the last nine years a decrease in the death-rate by remittent and continued fever, but an increase in that by enteric fever, the combined results showing an increase of 1·01 per 1000 compared with the preceding nine years. The report says: "The figures regarding the admission and death-rates furnished by the individual fevers during the past decade are hardly explicable, save as the result of a mere change in nomenclature, of a mere redistribution of a total into parts of different proportions." ..... "The great apparent increase in the amount of enteric fever among the troops of late years is not, then, to be attributed to actual increase or even entirely to improved diagnosis, but may very possibly be partly due to defective diagnosis connected with mere change in prevalent opinion." An account is given of an epidemic of fever at Lucknow and Meerut in December, 1888, to February, 1889, which seems to afford corroborative evidence in favour of these conclusions. The influence of age on the mortality by enteric fever was, as usual, well marked; the deaths under twenty-five were 5·46, from twenty-five to twenty-nine they were 2·36, and at thirty and upwards 0·84 per 1000 living at each of these periods of life. The mortality from it at different periods of residence in India was as follows:—In the first and second years, 6·39; from the third to the sixth year, 2·77; and from the seventh to the tenth year, 1·08. The committee, in remarking upon these results, says of the mere bulk of a specially susceptible population present at any given time: "It is doubtless an important factor in determining the occurrence, but cannot be regarded as the sole determinant of the phenomenon, which would appear to be also partially under the influence of other widely diffused agencies, probably of climatic origin."

Cholera did not prevail to any great extent, the admissions having only amounted to 3·0 and the deaths to 1·99 per 1000 of strength. The cases in Bengal and Madras were in each 3·5, but in Bombay they were only 0·8 per 1000. Upwards of half the cases in Bengal occurred at Rawal Pindi, the Murree Hills and Murree depôt furnishing the next largest number. In the Madras Command one case occurred at St. Thomas's Mount and a fatal one at Bellary, and 47 with 39 deaths in Burmah. It is noteworthy that no case of cholera occurred among troops marching except in the Punjaub, where there were 6 cases with two deaths, and in Burmah, where 11 are reported as having died on the march. The proportion of deaths to cases was 2 in 3; but this is probably overstated, as some of the fatal cases apparently did not come into hospital, and do not, therefore, appear among the admissions.

Venereal diseases caused upwards of one-fourth of all the admissions into hospital. In Bengal they amounted to 373, in Madras to 376, and in Bombay to 357 per 1000 of the strength. The proportion in Bengal and Bombay was higher than in any of the preceding nine years except 1886, and in Madras than in any except 1886 and 1887. The increase was chiefly in cases of gonorrhœa, the admissions for primary venereal sores corresponding exactly with those of 1887, and there being only a slight increase in secondary syphilis. The death-rate by ages from all causes, exclusive of cholera, was as follows: twenty-four and under, 11·85; twenty-five to twenty-nine, 12·98; thirty to thirty-four, 13·81; thirty-five and upwards, 16·01 per 1000.

The proportion of men invalided to England during the year was 22·71 per 1000 of the strength; anæmia and debility were, in all three Presidencies, the most frequent causes assigned. Diseases of the circulatory system also furnished a high proportion. From Madras the invaliding for venereal diseases was 3·48 per 1000, more than double Bombay, and more than thrice as high as Bengal.

The strength of officers in India was 5129, of whom 67 died, being in the ratio of 13·06 per 1000, or somewhat lower than among the men. If to these numbers be added 1245 officers in Europe on furlough or sick leave, and 8 deaths (of which 3 occurred at sea), the death-rate for the whole will be 11·77 per 1000. The ratio of mortality of officers of the British service was 13·24, and of the Indian service 10·31, almost exactly the reverse of the results in the preceding year. Enteric fever and cholera were the most fatal diseases, and were the cause of one-third of all the deaths.

In a strength of 3228 women there were 68 deaths, or 21·07 per 1000. Of these, 14 were from cholera, 13 from fevers, and 8 from accidents attending child-birth and abortion; anæmia and debility and intermittent fever were the most frequent causes of admission into hospital. Madras furnished the highest proportion of cases and the lowest of deaths, while Bombay had the lowest admission and highest death rates.

Among the children, numbering 6328, the admissions were 562 and the deaths 50·91 per 1000. As with the women Madras has much the highest ratio of cases and lowest of deaths, the latter being only 41·26 per 1000. Convulsions, diarrhœa, anæmia and debility, teething, and respiratory diseases were the chief causes of death, and to these must be added cholera in Bengal.

We may here notice two changes which have been introduced into the tables in the appendix, and in those of the native army and gaol population as well as the British troops. The first is a line under each table of the causes of deaths showing the "composition of 100 deaths," and a column in each table of the causes of admissions showing the "composition of 100 admissions," and the second, an alteration in the mode of calculating the proportion who have "died out of each 100 cases admitted." In the latter they exclude deaths out of hospital and deaths of cases admitted in the previous year. We can understand the omission of the first of these because they were not "cases admitted," but we fail entirely to see why the second group should be so treated. It will of course show a more favourable result of treatment, but an incorrect one. If they are for any good reason to be omitted, a deduction should be made from the cases of one-half of those remaining under treatment at the end of the year as being on the average only half treated, and as having therefore yielded only a portion of the deaths which they cause. But surely it is a much more reasonable method to calculate the total deaths on the total admissions, the overlapping of cases at the beginning of the year being compensated by a similar overlapping at the end carried into the next year. On the system now introduced a certain number of deaths must always be omitted in the calculation of the results of the cases. It really amounts to this, that because the deaths have not occurred before Dec. 31st they are to be counted as recoveries!

THE METROPOLITAN POLICE.

THE grievance respecting which the Metropolitan Police are agitating at the present is a matter of much more than class interest, since not only is the public peace very principally dependent upon the smooth and successful working of the police organisation, but the force itself has, by a long course of public service admirably rendered, become highly popular with all classes of citizens, and hence any remonstrances which its members may address either to the Government or to the Legislature are sure to be considered with a large measure of sympathy by the public, and even with a strong prepossession in favour of the objectors. It will, therefore, be a matter of interest to many of our readers to learn what, from the point of view of the members of the force, is the ground of complaint which they find in Mr. Matthews's superannuation scheme. The strength of the feeling which has arisen has been markedly manifested by the resignation of Mr. Monro, and it will probably appear at first sight as if the feeling were disproportionate to the substance of the dispute. The police, in their representations to the Government, have asked in substance for a superannuation allowance which will secure to a constable, after twenty-five years' service, unconditional right to retire upon a life pension of two-thirds of his full pay, and before the completion of this term of service, will provide for his retirement upon a scale of allowance varying from half pay up to the two-thirds limit if he has seen not less than fifteen years' service. The Bill which the Home Secretary has introduced adopts the time limits of fifteen and twenty-five years as defining the period within which retirement may take place at the option of the constable, but provides a somewhat less liberal scale of allowances than the police have asked for. Thus the minimum pension is to be three-tenths instead of one-half of full pay, and the maximum pension of two-thirds pay is not to be granted until a qualifying age (of fifty years) has been attained. These abatements, from their full demands, have given occasion for the very strong feeling which has been manifested by the police in the course of this discussion. It is easy to understand that a question of this kind is of extreme interest to the men, and the difference of about 10 per cent. between their demands and the Government proposal at service periods varying from fifteen to twenty-five years is one which they cannot be expected to regard as a matter of small moment. There is no manner of doubt that a very considerable proportion of the applicants for superannuation will be driven by force of circumstances to retire before the expiration of the full qualifying period of twenty-five years, and on them the disadvantage of this deduction will fall with all its weight. But we are inclined to think that a somewhat exaggerated impression of the proportion of men who will fall short of full term service has obtained currency. The men in their manifesto state that it has been shown that out of a strength of between 14,000 and 15,000 men the metropolitan force can only show some 329 individuals who have completed so long a term of service. If the ratio of 329 to 15,000 were a true expression of the probability which measures a constable's chance of qualifying eventually for a full pension, it would, no doubt, indicate that the Home Office scheme is little better than a delusion and a snare. This, however, is manifestly an inaccurate figure. The present strength of the force may be about 15,000 men, but it contains a very large proportion of new comers, having, indeed, been augmented by about one-third of its whole number within the past ten years. The proper way to test the merit of the scheme would be to calculate the proportion which these 329 survivors of twenty-five years ago bear to the number of men recruited at and about that date. For this test no materials are forthcoming at the present moment, but if anybody who has access to suitable statistics—if, indeed, such statistics are in existence, which we doubt—will give the public the benefit of research into this matter, we think that he will be able to exhibit the Government proposal in a much more favourable light. A man's chances of benefiting under the scheme are measured by the proportion which the number completing the given term of service in any given period, say a year, bears to the number recruited in the same period, the strength of the force being assumed constant. To attempt to test it by a comparison between the number qualified and the number unqualified at any given time is an error which it is easy to expose, but far less easy, we fear, to exterminate. The adverse opinion which the men have formed appears to rest in some measure upon a belief that the conditions of life of an ordinary constable, especially in the metropolis, are exceptionally arduous and trying to the health. We think that probably there is some misapprehension, or at least some exaggeration, here. No doubt they are very much exposed to weather, and the slow movement which they habitually maintain on beat is not of itself a desirable form of exercise. But these are not very serious disadvantages, and in the constant supply of fresh air and freedom from worry which they enjoy there are very substantial compensations. Still, it is not so important to refute the arguments of the men's manifesto as to convince the force that they are being fairly treated, and we trust that the strong case which Mr. Matthews made out for his scheme upon the second reading debate will do something to remove misapprehension, and, above all, to satisfy the constabulary that their case has received not only a fair, but also a friendly, consideration at the hands of the Legislature.

THE ELECTION AT THE ROYAL COLLEGE OF SURGEONS.

THE second election of three members to the Council of the Royal College of Surgeons under the new regulations and voting by means of proxy papers was held in the library of the College on the afternoon of Thursday, the 3rd inst., from 2 till 4 o'clock, and resulted as follows:—

Mr. W. MITCHELL BANKS	378	(including 58 plumpers.)	
Mr. MARCUS BECK	237	,, 13	,,
Mr. JOHN LANGTON ...	185	,, 4	,,
Mr. R. Lawson Tait	160	,, 12	,,
Mr. R. Brudenell Carter ...	145	,, 3	,,
Mr. Walter Rivington	131	,, 3	,,
Mr. Edward Bellamy	74	,, 3	,,

Last year Mr. Rivington polled 180 votes, including 3 plumpers, and Mr. Lawson Tait 177, including 8 plumpers. The largest number of votes (out of the 600 recorded) obtained by a successful member last year at this election was 397. Altogether 446 proxy papers were sent out by the Secretary in response to applications. Of these, 372 were returned, of which 1 was invalid and 12 arrived too late. About 150 Fellows attended in person and voted.

HOME FOR LEPERS, BOMBAY.—Sir Dinshaw Manockjee Petit Bar has munificently offered a lakh of rupees for the erection of a new home for lepers in Bombay.

INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY, 1891.

A MEETING in support of the International Congress of Hygiene and Demography was held in the Mansion House, on Thursday, the 3rd inst., at the invitation of the Lord Mayor. It was convened in order to form a definite organisation, and to raise a fund to defray the necessary expenses connected with the next international congress, the seventh of the series to be held in London, 1891, under the presidency of H.R.H. the Prince of Wales. There was a large gathering of ladies and gentlemen, many members of the medical profession being present, including Sir Spencer Wells, Sir Henry Thompson, Sir Thomas Crawford, Sir William Mac Cormac, Sir Dyce Duckworth, and others.

The objects of the Congress were explained by Sir Douglas Galton as being directed to awaken public interest in the progress of hygiene and demography, by which latter term was understood the study of the life conditions of communities from a statistical point of view; to afford persons interested in these subjects an opportunity of meeting, with the object of advancing their progress; and, by conferences and debates, to elucidate questions relating to hygiene, demography, and public health.

Lord Wantage proposed: "That, having heard the statement made by Sir Douglas Galton with regard to the objects of the International Congress of Hygiene and Demography, proposed to be held in London in 1891, and the account of the various previous Congresses, this meeting resolves that it is most desirable that such a Congress should be held in London."

This was seconded by Professor Humphry.

Sir Henry Thompson proposed the second resolution, which was: "That, as the Congress will be an international undertaking of the highest importance, it is worthy of the earnest support of all classes." This was seconded by Dr. Thorne Thorne.

It was proposed to open a subscription list for the purpose of collecting funds for the promotion of the undertaking.

The meeting was terminated with a hearty vote of thanks to the Lord Mayor for his conduct in the chair.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Kendal Rural District.—Although there were a number of occurrences of infectious diseases in this district during 1889, they were so mild as not materially to affect the mortality, and the zymotic rate was less than 1 per 1000 living; that from all causes only just exceeding 14 per 1000. According to Mr. Craven, extension of house-drainage and removal of privy nuisances is steadily in progress, and it is hoped by such means to get rid of the mortality from diseases of an excremental type. Unfortunately this district suffers in common with the county of Westmoreland from a large amount of uncertified deaths; no less than 6 per cent. of the county deaths coming within this class, and hence the death returns are in a large proportion of cases utterly valueless.

Cardiff Rural District.—This district cannot claim a small mortality for 1889, the general death-rate on the estimated population being 18·39 per 1000, as opposed to one of 17·8 for England and Wales as a whole. The mortality had, indeed, increased in most portions of the district, and it was partly due to an excess of zymotic deaths, which gave a rate of 2·56 per 1000. Thus, measles was prevalent and diphtheria was more common than in recent years. Defective sanitary conditions were found to be associated with the cases of this disease, and whatever view may be taken as to the relation of these conditions with diphtheria, it is certain that the description given by Dr. R. Prichard in his report, both when dealing with preventable diseases and in describing some of the localities within his district, goes largely to indicate the direction in which action is needed, with a view of lessening the causes of death that obtain in rural Cardiff. The separation of the duties of surveyor and sanitary inspector should also be considered, in order that the former officer should be better able to see to compliance with needful building regulations.

Stafford Urban District.—On a population now reaching nearly 20,000, Dr. Milnes Blumer calculates the death-rate to be 17 per 1000; and he gives the infant mortality as 143 per 1000 births. In an interesting portion of the report the phthisis mortality in Stafford is considered. Compared with towns such as Leicester and Northampton, having similar trades, Stafford stands badly in this respect, the corrected phthisis death-rate being 1·83 per 1000; and it is held to be very largely due to the circumstance that in Stafford the subsoil water stands very high, being in some parts very near the surface indeed. The remedies indicated are such as would remove obstructions in the river such as tend to dam back the subsoil water, and also the deep drainage of the borough. The latter, Dr. Blumer fears, will at present be almost impracticable on account of the excessive expense, but he urges strongly that a beginning, at least, should be made as regards the former, by the removal of a mill over which the Town Council have sufficient control. The matter is certainly one of great importance, and it is to be hoped that the advice given will be carefully considered and acted on.

Bilston Urban District.—Dr. Ridley Bailey refers to an outbreak of measles which extended into 1889, but which, largely by the adoption of a system of exclusion from school of children from infected houses, was brought to an end before much harm had resulted. He also deals with the question of phthisis, and the need for adequate ventilation in and about dwelling-houses; and he rightly condemns the system of back-to-back houses. Adverting to the notification of infectious diseases, he suggests the expediency of giving proper effect to that system by the provision of means of isolation, and he considers that combination with one or two neighbouring sanitary authorities for that purpose would be the best practicable plan. The annual death-rate reaches as high as 22·5 per 1000; in other words, there must be ample room still for the adoption of measures for the promotion of public health.

Northampton Urban District.—Coupled with the adoption of a system of compulsory notification of infectious diseases, the Northampton Town Council have wisely decided to put their isolation hospital on such a footing as will tend to make it useful for public purposes, and a new building has been decided on. New building by-laws are also under consideration, and it is much to be hoped that they will soon be approved in a final state. Mr. L. F. Cogan calculates the general death-rate for 1889 at 16·9 per 1000 living, and the infant mortality at 144 per 1000 births. Considerable attention is given in the report to the subject of infantile diarrhœa, which in some former years has caused an excessive mortality, and which, in point of conditions calculated to favour it, still leaves much to be desired in the borough. But it is satisfactory to see, from the record of work that has been done, that good results may be anticipated in connexion with measures tending to the cleansing of the surface soil on which the town lies, a matter all the more important in view of the antiquity of some portions of the borough. In regard of proper dwelling accommodation, it is sincerely to be hoped that some comprehensive measures will be adopted in order to get rid of such houses and courts as are not properly fit for human habitation. Mr. Cogan has, in a few individual cases, suggested action for this purpose, but it is by no means clear whether his advice has been followed; whilst it is certain that Northampton presents, in some of its older portions, a wide field for activity in this respect.

Barnsley Urban District.—Though this borough cannot boast of a small mortality, yet both the general rate for 1889, which was 21·04, and the zymotic rate, which was 2·92 per 1000, were less than usual. Diphtheria caused 15 deaths, and is said to be, as in many other large towns, on the increase. Unfortunately Dr. Sadler has hitherto been unable to discover any special cause for this increase, neither has the disease by any special preference for any particular districts of the borough aided in the solution. Satisfaction is expressed in the report at the effect which can now be given to the operation of compulsory notification by reason of the gift by Mrs. Lambert of the new infectious hospital; and it is stated that a special building has been constructed for small-pox on the system advocated by the Royal Commission on Small-pox and Fever Hospitals

This is worth noting, for it is, we believe, the first building of the sort that has been provided. A number of improvements are being effected in the borough, and an experiment has been carried out with a view to abolish the midden-privy system, which deserves attention. The water from sinks is accumulated, and then tipped by means of buckets, or syphoned, into closet-pans, thus turning these structures into real waterclosets. Contrary to previous experience as to some of these attempts in respect of efficient flushing, Dr. Sadler says the results have been thoroughly satisfactory, and he hopes this may remove a principal difficulty in securing by-laws which are so much needed as to new buildings and their accessories. The experiment deserves to be watched, for nothing short of efficient cleansing and flushing of pans and of house drains should be allowed in a watercloset system.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5415 births and 3158 deaths were registered during the week ending June 28th. The annual rate of mortality in these towns, which had been 17·2 and 17·9 per 1000 in the preceding two weeks, declined again last week to 16·9. The rate was 15·9 in London and 17·8 in the twenty-seven provincial towns. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the twenty-eight towns averaged 19·1 per 1000, and was 0·8 below the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 10·6 in Bradford, 10·7 in Cardiff, 11·3 in Nottingham, and 12·4 in Portsmouth. The rates in the other towns ranged upwards to 22·3 in Preston, 22·8 in Blackburn, 23·7 in Newcastle-upon-Tyne, and 21·7 in Manchester. The deaths referred to the principal zymotic diseases, which had been 401 and 462 in the preceding two weeks, declined again last week to 446; they included 151 from measles, 102 from diarrhœa, 80 from whooping-cough, 44 from scarlet fever, 42 from diphtheria, 27 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Cardiff, Nottingham, Huddersfield, and Halifax, and the highest rates in London, Sheffield, Liverpool, and Manchester. The greatest mortality from measles occurred in London, Derby, Wolverhampton, and Liverpool; from scarlet fever in Manchester and Sheffield; from whooping-cough in Brighton; from "fever" in Birkenhead; and from diarrhœa in Leicester and Blackburn. The 42 deaths from diphtheria included 24 in London, 6 in Manchester, 2 in Salford, 2 in Sheffield, and 2 in Sunderland. No death from small-pox was registered in any of the twenty-eight towns. Only one case of small-pox was under treatment in the Metropolitan Asylum Hospitals at the end of the week, and not one in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1247, against numbers increasing from 1067 to 1196 on the preceding five Saturdays; the new cases admitted during the week were 136, against 104 and 143 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 240 and 215 in the preceding two weeks, further declined to 206 last week, and were 6 below the corrected average. The causes of 46, or 1·5 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Oldham, Sunderland, and in six other smaller towns. The largest proportions of uncertified deaths were recorded in Blackburn and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·9 and 22·1 per 1000 in the preceding two weeks, declined again to 20·6 in the week ending June 28th, and exceeded by 3·7 the rate which prevailed during the same period in the twenty-eight English towns. The rates in the eight Scotch towns ranged from 14·7 in Paisley and 16·6 in Leith, to 23·4 in Perth and 23·5 in Glasgow. The 534 deaths in the eight towns showed a decline of 38 from the number in the previous week, and included 33 which were referred to whooping-cough, 26 to measles, 10 to diarrhœa, 6 to diphtheria, 3 to scarlet fever, 2 to "fever," and not one to small-pox. In all, 80 deaths resulted from these principal zymotic diseases, against 93 and 95 in the preceding two weeks. These deaths were equal to an annual rate of 3·1 per 1000, and exceeded by 0·7 the mean rate last week from the same diseases in the twenty-eight English towns. The highest death-rates from these diseases were 6·6 in Greenock and 7·8 in Perth. The fatal cases of whooping-cough, which had been 22 and 37 in the preceding two weeks, declined again to 33 last week, of which 17 occurred in Glasgow, 5 in Greenock, and 4 in Perth. The fatal cases of measles, which had increased from 35 to 41 in the previous three weeks, declined again to 26 last week, and included 16 in Glasgow and 8 in Dundee. The 6 deaths referred to diphtheria exceeded the number in the preceding week by 2, and included 2 in Glasgow and 2 in Greenock. The 3 fatal cases of scarlet fever were 3 below those recorded in the preceding week. The deaths referred to diseases of the respiratory organs, which had been 98 and 110 in the previous two weeks, declined again last week to 88, but exceeded by 17 the number in the corresponding week of last year. The causes of 55, or more than 10 per cent., of the deaths in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·3 and 20·8 per 1000 in the preceding two weeks, rose again to 22·8 during the week ending June 28th. During the thirteen weeks of the quarter ending on the 28th ult., the death-rate in the city averaged 23·6 per 1000, the rate for the same period being 17·3 in London and 19·3 in Edinburgh. The 152 deaths in Dublin showed an increase of 9 upon the number in the previous week; they included 5 which were referred to "fever," 4 to whooping-cough, 4 to measles, 2 to diarrhœa, and not one either to small-pox, scarlet fever, or diphtheria. Thus the deaths from the principal zymotic diseases, which had been 12 and 7 in the preceding two weeks, rose again last week to 15; they were equal to an annual rate of 2·2 per 1000, the rate from the same diseases being 2·9 in London and 0·4 in Edinburgh. The fatal cases of "fever," which had been 4 and 2 in the preceding two weeks, rose again to 5 last week. The 4 deaths referred to whooping-cough corresponded with the number in the previous week; and the 4 fatal cases of measles exceeded by 3 the number in the preceding week. The deaths of infants showed an increase, while those of elderly persons were considerably below the number returned in any recent week. Seven inquest cases and 5 deaths from violence were registered during the week; and 70, or nearly one-half, of the total deaths occurred in public institutions. The causes of 13, or more than 8 per cent., of the deaths werenot certified.

VITAL STATISTICS IN HAVANA.

According to a paper by Dr. La Guardia, mentioned in the *Repertorio Médico Farmacéutico*, on statistics of disease &c. in Cuba, it would appear that both the crime-rate and the death-rate are diminishing in Havana. The population is just over 200,000, having increased about 1800 in ten years. Notwithstanding a good deal of sanitary improvement, the deaths from typhoid fever do not seem to be diminishing, but keep up to about 170 per annum. An important diminution has taken place in the mortality of the troops from yellow fever since, in consequence of Dr. La Guardia's advice, Spanish troops have not been sent out in the hot months of spring. Thus, in 1888, while this system was still in force, no less than 293 soldiers died from yellow fever; but in 1889, when more prudent arrangements for trooping had been made, only 118 fatal cases occurred. Glanders and farcy are by means rare, no less than twenty deaths being recorded from them. The author suggests, as a means of enforcing greater care in stables, that the owner of an animal which fatally infects a man should be compelled to pension his family. Phthisis is stated to have caused 1382, or about one-fifth of the total deaths in Havana in 1889, and bronchitis 283. The total mortality was highest in July and August, and lowest in January and February.

METROPOLITAN HOSPITAL SUNDAY FUND, 1890.

WE publish below further returns of the sums above £20 collected at various places of public worship on Sunday, June 8th, in aid of the Metropolitan Hospital Fund.

Church of England.	1889. £ s. d.	1890. £ s. d.
St. Peter's, Eaton-square, Rev. J. Storrs	771 17 2	809 14 8
Camden Church, Camberwell, and Schools, Ven. Archdeacon Richardson	104 5 2	92 16 11
St. Peter's, Vere-street (with additions), Rev. W. P. Roberts	220 2 11	271 19 2
St. Paul's, Onslow-sq., Rev. H. W. Webb Peploe	349 2 6	418 18 7
Christ Church, Forest-hill, Rev. G. J. Jones	51 8 9	48 12 8
St. Mark's, Notting-hill, Rev. W. E. Emmet	35 0 4	36 1 4
Aldenham Parish Church, Rev. K. F. Gibbs	36 0 0	46 6 0
St. Peter's, Norbiton		23 8 3
Immanuel Church, Streatham-common, Rev. G. S. Streatfield	117 10 0	100 0 10
St. Mary Abbott's, Kensington Parish Church, Rev. Hon. E. Carr-Glyn	325 13 11	345 0 3
Christ Church, Kensington, Rev. Hon. E. Carr-Glyn	76 16 11	112 16 8
St. Paul's, Kensington, Rev. Hon. E. Carr-Glyn	100 7 9	68 5 2
Newington Parish Church, with St. Gabriel's, Rev. G. T. Palmer and Rev. S. E. Chettoe	26 4 5	28 7 8
St. Saviour's, Brixton-hill, Rev. F. G. Sanders	23 8 0	21 7 0
Emmanuel Church, Wimbledon, Rev. E. W. Moore	70 4 4	71 0 0
Emmanuel Church, Maida-hill, Rev. J. G. Tanner	40 13 6	35 15 9
St. Stephen's, Clapham-park		40 10 4
St. James's, Hatcham		36 16 10
St. Philip's, Kensington, Rev. W. Smale	82 17 8	102 3 11
St. Saviour's, S. Hampstead, Rev. G. A. Herklets	30 11 5	21 3 10
St. James's, Clapton, Rev. H. D. Pearson	18 9 6	20 15 0
Eaton Episcopal Chapel, Eaton-sq., Rev. C. A. Fox	100 0 0	57 18 5
St. Margaret's, Lee, Rev. H. F. Law	54 1 7	54 6 5
St. Andrew's, Stoke Newington, Rev. H. E. J. Bevan	26 4 5	28 12 8
St. Matthew's, Bayswater, Rev. J. F. Sullivan	216 2 4	227 13 0
St. Stephen's, South Kensington, Rev. J. P. Waldo	197 4 1	233 0 0
St. Martin's-in-the-Fields, Rev. J. F. Kitto	85 19 6	78 9 1
St. Michael's, Battersea, Rev. J. S. Barford	30 10 0	23 12 0
St. Paul's, Upper Norwood (part)		78 16 2
West Ham Parish Church, Rev. Canon Scott	26 18 7	20 6 6
St. Giles's-in-the-Fields, Rev. Canon Nisbet	25 3 1	22 16 6
St. John's, Blackheath		73 12 4
St. John the Evangelist, Wilton-road		81 17 10
Allhallows, London-wall, Rev. C. Lacy, M.A.	35 4 6	42 14 2
Christ Church, Westminster-road		20 0 0
St. Mary's, Balham		70 18 5
Church of the Good Shepherd, Lee, Rev. F. H. Law	20 11 1	22 5 0
Carshalton Parish Church, Rev. Lord Victor Seymour	27 6 7	27 12 6
St. Mary the Virgin, Primrose Hill		44 14 1
St. Barnabas, Pimlico, Rev. A. Gurney	31 8 7	27 4 2
St John's, Downshire Hill	46 18 0	48 18 0
Christ Church, Reformed Episcopal Church, Harlesden		20 1 10
St. James's Parish Church, Paddington, Rev. W. Abbott	160 0 8	147 16 9
St. James's, Marylebone, Rev. H. R. Haweis	78 12 5	42 5 3
Chiswick Parish Church, Rev. L. W. T. Dale	34 1 0	29 7 6
All Saints', Notting-hill		41 14 3
Christ Church, Beckenham, Rev. J. Harding	48 1 2	40 0 1
All Saints', Camberwell, Rev. T. J. Castor	47 16 4	51 3 3
St. Stephen's, Clapham-park		40 10 4
Stepney Parish Church, Rev. E. Hoskins	40 17 5	32 5 11
Congregational.		
Rectory place Church, Woolwich, Rev. A. J. Viner	20 3 0	20 1 0
Upper Clapton Church	27 0 0	24 15 6
Haverstock-hill Church, Rev. J. Nunn	22 1 4	30 17 6
Wesleyan.		
Denbigh-road, Wesleyan Chapel		21 13 1
Hare-court Chapel and Sunday School		34 11 10
Presbyterian.		
Trinity Presbyterian Church, Clapham-rd., Rev. Dr. MacEwan	17 10 0	20 10 1
St. John's, Kensington, Rev. C. Moinet	80 0 0	70 0 0
Jewish.		
West London Synagogue, Rev. Professor Marks	226 13 0	6
German Protestant.		
Windsor-rd., Denmark-hill, Rev. A. Wysard	66 15 0	82 5 4

THE FRENCH EXHIBITION, BROMPTON.—A grand French *fête* will be given by the Executive Council of this Exhibition to-day (Saturday), in aid of the new French Hospital, which was opened on Thursday. The band of the Garde Républicaine, by permission of the French Government, will be present.

Correspondence.

"Audi alteram partem."

DOES "DIPHTHERIA" INCLUDE "MEMBRANOUS CROUP"?

To the Editors of THE LANCET.

SIRS,—I am anxious to obtain through your columns some expression of opinion regarding the point raised in the recent correspondence between the Metropolitan Asylums and the Local Government Boards, a copy of which has been sent to the East London Hospital for Children, and, I believe, to the hospitals generally.

The reply from the Local Government Board to the question as to whether the term "diphtheria" in the Poor-law Act of 1889 can be taken to include "membranous croup," and whether cases of the latter disease can be admitted into the hospitals of the Metropolitan Asylums District, is somewhat oracularly expressed as follows:—"That in the opinion of the Board a case of membranous croup which the medical officer concerned states to be diphtheritic in nature may properly be admitted into such a hospital." It seems that either some more definite official directions as to what class of cases are admissible to these hospitals are required, or separate accommodation for cases of laryngitis of doubtful nature should be provided. First, it is confessedly impossible to diagnose *membranous croup* in an overwhelming majority of cases before tracheotomy or death, as at the age when nearly all such cases occur expectoration of any kind, membranous or not, scarcely ever occurs, and no laryngeal symptoms or signs are seen, at least during life, in a very large number of cases even of those which may be thus characterised post mortem. It is obviously not contemplated to send cases already tracheotomised to the district asylums. Secondly, in view both of the universally acknowledged existence of severe non-membranous laryngitis and of the opinion of many competent observers that there is such a disease as non-contagious membranous croup, it would seem distinctly unadvisable to encourage the admission of any cases with laryngeal symptoms unaccompanied by any further evidence of "membrane" or "diphtheria" to wards where cases of recognised diphtheria are taken.

It is always difficult to make practical rules when the scientific points on which they should be based are still unsettled. But I would suggest either that there should be a general instruction to the managers of the district asylum not to admit cases of questionable laryngitis except perhaps in epidemics of diphtheria, or coming from a household known to be infected; or that such cases should not be received into diphtheritic wards with the imminent danger of being fatally infected.

Since the Act of 1889 much difficulty has often been felt by the officers of hospitals for children. On one occasion I was asked to see a child of about two years old by Mr. Battams, the late experienced resident medical officer to the East London Hospital for Children, and to help him to decide whether we should admit the case as "laryngitis" or send it to Homerton as "diphtheria." The child had marked, but not severe, laryngeal symptoms, and the fauces (of which we obtained a good view) were perfectly free. There was no history of any similar or any throat case in the child's home. But in view of many recent cases of fatal diphtheria at Shadwell, and with a wish to comply with the spirit of the new regulations there, against admitting diphtheria, we sent it, after much hesitation, to Homerton. The case was tracheotomised there the next day, when obvious membrane was expelled, and the mother of the child became ill at the same time with well-marked diphtheria. On the other hand, we have frequently admitted, both before and since that time, apparently similar cases in young children of what appeared to be simple laryngitis, the favourable sequel of which seemed quite to exclude the diagnosis of diphtheria. For myself, though strongly inclining to the belief that nearly all cases of "membranous croup" are diphtheritic, and that many cases of what can only be diagnosed as "laryngitis" during life are so as well, I still would strongly oppose the practice of sending all severe cases of laryngitis promiscuously to wards set apart for a disease so contagious and fatal as diphtheria is known to be. It is surely necessary that there should be some clearer expression of

opinion and some more definite practical regulations on this matter than are contained in the most recent dictum of the Local Government Board. However much such opinion, and regulations may lack full scientific sanction, as they assuredly must do, they might at least be framed so as to be practically on the safe side. It is better, I think, to admit a doubtful case of laryngitis into a general ward, even among the children, than to send it where the massing together of cases of diphtheria so much reinforces its known contagium.—I am, Sirs, yours truly,

H. B. DONKIN, M.B. Oxon., F.R.C.P.,
Phys. to the Westminster Hosp. and to the
June 27th, 1890. East London Hospital for Children.

THE HYDERABAD CHLOROFORM COMMISSION.

To the Editors of THE LANCET.

SIRS,—I have read with much interest and pleasure the paper by Surgeon-Major Lawrie in your last issue, and only on one point do I venture to point out what appears to me to be an injustice to the teaching of our great master, Sir James Y. Simpson. Surgeon-Major Lawrie very properly tells us how Professor Syme used to insist on watching the respiration and taking that as the guide in the administration of chloroform; but Sir James Simpson was strong on this point as early as 1847—that is to say, very soon after he began to use chloroform. The Hyderabad Commission, generously conceived as it was, and ably carried out as it has been, has, nevertheless, done little more than to impress on the world at large what we have been taught at Edinburgh University since Simpson introduced chloroform some fifty years ago. Yet how slow has been the spread of that teaching. When did we ever see a stethoscope used in examination before the administration of chloroform? When did we ever see an inhaler, except those on Simpson's lecture table?—for which he had an affectionate regard as valuable antiques. When have we seen the chloroform measured out drachm by drachm? Does not all this go to show that we were correctly taught to judge by the *respiration* and the *effects* of the chloroform and not by any rule of thumb as to the condition of the heart and pulse or quantity given of chloroform? It has often occurred to me that supposing one had a case of sudden death while a patient was under the influence of chloroform (not necessarily the result of the anæsthetic—see Simpson on Anæsthesia) here in England, probably the first question of the coroner would be "How much chloroform was administered?" and how supremely ignorant and careless one would be considered if the answer given was "I have no idea," yet it would be a proper reply to a foolish question. This is a point deserving attention. As regards disease of the heart, Simpson says: "Valvular diseases are those which are most generally considered and insisted on as contraindicating the use of chloroform. But this is really not the case, for that agent may be employed without the least danger in any valvular disease, except, perhaps, disease of the mitral valve. ..... There is, perhaps, no necessity for this dread after all." (Simpson's "Anæsthesia," p. 182.) No one can cherish a more grateful remembrance of the teaching and personal kindness of Professor Syme than I do, but it was Simpson who taught us, first, that the chloroform should be pure; secondly, that in administering it there should be a free dilution of the vapour with atmospheric air; thirdly, not to use an inhaler; fourthly, to watch the respiration and beware of stertor; and fifthly, not to think about the quantity but the effects of the chloroform.

I am, Sirs, yours truly,

Brighton, June 24th, 1890. R. WHITTINGTON LOWE, M.D.

ETHER *v.* CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—I can emphatically endorse all you say in your admirable annotation of May 3rd, that "the ever-recurring paragraphs detailing death while under chloroform too often escape due notice." During an experience as house surgeon extending over nine years in this and other hospitals it has fallen to my duty to administer anæsthetics constantly. As I take the deepest interest in the subject, I hope I may be excused for writing to you on it. It is surprising to me how anyone can advocate chloroform in preference to ether. The number of deaths from chloroform recorded in THE LANCET and *British Medical Journal* during the last three years is as follows: Sixteen in 1887, twelve in 1888, and thirteen in 1889. In the same period the same journals only record three deaths from ether, and but one from nitrous oxide. Again, in a report published in Paris, mentioned in your issue of April 12th, accidents due to chloroform are 1 in 1236, whereas those from ether are but 1 in 12,581 cases. These facts surely speak for themselves.

In THE LANCET of Oct. 19th, 1889, under the heading "Deaths under Chloroform," you describe two deaths, one in a child four years old. When resident medical officer at Pendlebury I administered ether to children from six years upwards, and can testify to its safety for *them*, and in the hospital here I have administered it to old men up to eighty in long cases of litholapaxy, and to men of eighty-two in strangulated hernia. I am told by the staff here that at no period of its history has a death been recorded from an anæsthetic. Ether is always used, unless contra-indicated. The chief reason why chloroform is given is because ether is far more difficult to administer than chloroform. If ether is to be given with satisfaction it requires an inhaler, and special instruction in the use of it. But ether always gives warning of danger, whereas under chloroform there may be sudden death. One point I would strongly urge is always to have a sufficient variety of anæsthetics on a table at hand—viz., chloroform, ether, A.C.E., cocaine. Latterly I have added Messrs. Bartts' improved Clover's gas and ether inhaler. No one can predict with certainty which anæsthetic the patient will take best. I have had cases (generally alcoholic patients), where ether caused struggling and great excitement, but after Clover's inhaler had been changed for Ormsby's, with A.C.E., the patient quietly and quickly went under; *in such cases chloroform should never be given.* It is a pity that A.C.E. is not more generally used; for when ether fails to stimulate it is most valuable, as in ovariotomies and such like protracted cases.

In reference to[1] inhalers, I am sure none can compare with Clover's for ether; with it the exact percentage required can be given. Ormsby's is the best for A.C.E. mixture. Messrs. Bartts have lately made a hinged cap for me, whereby the mixture can be poured on to the sponge without removing the cap, for small quantities constantly put in are preferable to a large amount. Caution is needed in using the inhaler, for the alcohol and ether volatilise more rapidly than the denser vapour of chloroform. For chloroform administration nothing is better than a double piece of lint, whereby plenty of atmospheric air can be given. I have noticed five deaths where metal inhalers have been used. I have witnessed several deaths from chloroform, though I am thankful to say that none have occurred in my own practice, and I am convinced that they were due to an overdose and *not* due to shock from too little being given; and I would here draw attention to Dr. Hewett's admirable letter in your issue of March 1st, wherein he mentions a case of syncope arising from deep chloroform narcosis, where he went on with ether for the remainder of the operation. Surgeons nowadays expect too much from anæsthetics. Profound anæsthesia cannot be maintained for 1½ or 2 hours without great danger occasionally, and there are many cases where it suffices to keep the patient on the verge of returning consciousness—e.g., sequestrotomies and similar tedious but not delicate operations.

I would conclude by saying that ether should be always given between the ages of sixteen and sixty, except there is some good reason to the contrary, such as pulmonary, renal, or arterial disease. Never, upon *any consideration whatever*, should chloroform be given for dental cases. It is always dangerous in the sitting posture for anything. I must apologise for taking up so much of your valuable space, but my excuse must be the immense importance of the subject and the alarming mortality of chloroform.

I am, Sirs, your obedient servant,

H. CHESTER NANCE,
Norwich and Norfolk Hospital, House Surgeon.
Norwich, June 9th, 1890.

[1] Vide THE LANCET, vol. ii., p. 1220, 1888. Dr. Squire's communication on his giving ether for Liston in 1846, and his first inhaler.

ON THE TREATMENT OF CYSTIC GOITRE, RANULA, AND OTHER CYSTS WITH CHROMIC ACID.

To the Editors of THE LANCET.

SIRS,—The very interesting cases narrated by Dr. Woakes in last week's LANCET will draw the attention of the profession to the great value of chromic acid as an escharotic. Its novel use in large cysts by Dr. Woakes is an important advance in treatment, and one which promises excellent results. I have frequently used it in sinuses, but from an ill-defined fear of the risk of absorption of so poisonous a substance had in former years hesitated to apply it in large cavities. Subsequent experience convinced me that there was no ground for such a fear in ordinary cases, and large cavities, as Dr. Woakes now shows, are also devoid of danger from this mode of treatment. During the last twenty-five years I have used chromic acid largely, with the most excellent results.

In epithelioma of the tongue, in several cases a cure was effected; in one of these at least one-fourth of the tongue had been eaten away. In using the acid in the mouth or on the lips I always neutralised it with bicarbonate of potash after each application. In foul ulcers its action was found to be most beneficial. In nævus and in fungus hæmatodes its action was all that could be desired. In these cases it was usual to surround the part with a ring of gutta-percha and to fill this with the crystallised acid, allowing it to remain until a sufficiently deep eschar had been produced. A very good instance of its action in the last-named disease was published by Mr. A. E. Barrett.[1] In 1864 the action and mode of application of chromic acid were fully described by me in my friend Dr. B. W. Richardson's "Medical History of Lynn."[2]

The mode in which chromic acid acts on the tissues is by coagulating the albumen, and thus forming an eschar which is dry and leathery, and the effect of the acid is so antiseptic that no trace of moisture is found for some time after its application. It is needless to add that there is no trace of pus. There appears to be a complete closure of the vessels through the coagulating effect of the acid, so that exudation and absorption are equally rendered impossible, and all escape of white corpuscles is prevented. After a time, varying from two or three days to a fortnight, according to the depth of eschar induced, the slough begins to separate at the edges, and now for the first time a slight moisture appears. The eschar may be enucleated by gentle traction with a forceps, showing a dry, smooth surface, from which healthy granulations presently arise, but these for some time afterwards do not show any appearance of pus. The power of coagulation which chromic acid possesses over albumen is very remarkable. I have often used it as a test in albuminuria, and find it more delicate than picric acid.

I am, Sirs, your obedient servant,

London, June 30th, 1890. JOHN LOWE, M.D.

STRANGULATED HERNIA.

To the Editors of THE LANCET.

SIRS,—It would seem almost superfluous to continue to advocate the use of cold, either in the form of ice or ether spray, or even of cold water continuously applied and constantly renewed, if doubt as to its utility had not been thrown upon the proceeding by so high an authority as Mr. Heath. Doubtless in hospital practice it is much less frequently of use than in private practice, as many of the cases are admitted into hospital after too long a delay; but in private practice an operation would seldom be submitted to if nothing but the taxis had been tried. Cold, which seems to diminish the contents of the strangulated portion of bowel by condensation, as well as giving more firmness to the protruded part itself, tends very much to facilitate reduction; but I would strongly advocate that with the commencement of the application of cold a *full dose of opium* be given. Indeed, without it cold is certainly not so likely to be successful.

I am, Sirs, yours obediently,

June 24th, 1890. G. P.

[1] THE LANCET, Aug. 25th, 1877.
[2] Med. Times and Gaz., Feb. 6th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENTS.)

Victoria University.

DEGREE DAY last Saturday was not marked by the disgraceful noise and uproar of last year. For the ceremony the Free Trade Hall was used, as at present the University is without a proper home or local habitation for such ceremonies. The Town Hall, the Owens College, the Gentlemen's Concert Rooms, and now the Free Trade Hall, have all in turn been used on the occasion of the conferring of degrees. The Vice-Chancellor, Professor Rendall, of University College, Liverpool, presided, and in his annual report alluded to the fact that at each of the Colleges—Manchester, Liverpool, and Leeds—building operations were either being carried out or contemplated, to provide additional accommodation. It will be a considerable boon when the University has acquired a large public hall, which will probably be provided at Owens College as soon as funds will allow. Only four degrees in Medicine (M.B. and M.S.) were conferred, three of these graduates being from Owens College and one from University College, Liverpool. In the recently published examination lists the names of eighteen candidates appear as having passed the Entrance Examination in Arts (Faculty of Medicine). The Council have lately resolved to award gold medals for special excellence in the thesis for the degree of Doctor of Medicine, and these were now awarded for the first time to Dr. Buchanan of University College and to Dr. Pomfret of Owens College.

The Infirmary.

Not more than a dozen years ago large sums of money were spent in remodelling and extending the infirmary buildings. A new nurses' home and out-patient department were erected, and the space devoted to these purposes thrown into the general ward accommodation of the building, this having followed upon a vigorous agitation to remove the old and build a new infirmary. Recently some agitation has again been afoot, in large measure from the medical staff, for a new building, and yesterday the matter received the consideration of the general board of the infirmary. A special committee appointed to consider and report upon the matter submitted their report, which advised the gradual replacement of the present building by a new and more modern one, to accommodate at least 500 patients, being more than 100 in excess of the present accommodation; but the evidence of the need for this large increase was not altogether convincing, nor was it indicated where the funds were to come from to provide the same. Certainly, if an appeal be made to the public there would be found a large section in favour rather of helping forward the scheme which was before the Owens College some months ago for providing an altogether new hospital, somewhere in the vicinity of the college, instead of centralising all the hospital accommodation in Piccadilly. Two other matters of some importance were before the board—a proposal to allow the wards of the infirmary to be used on certain afternoons for the use of qualified medical men attending post-graduate classes was sanctioned; this had at first been refused, and it is satisfactory that arrangements can now be made for the efficient carrying on of these courses in the hospital which has the greatest wealth of clinical material. It was reported in these columns that the Board had been approached by the City Council as to the practicability of providing at the infirmary a public mortuary for the use of the coroner &c. It appears that it is not thought desirable to increase the mortuary provision beyond the needs of the infirmary itself, so the corporation will have to seek another site for what is admitted on all hands to be a very real need in the centre of the city. This matter would have been introduced by Mr. Alderman Schofield, an old member of the Board, and who was formerly chairman of the Health Committee of the corporation for a long term of years, but whilst at the infirmary he was yesterday seized with a slight apoplectic attack, though he recovered sufficiently in the course of a few hours to be removed to his home.

Death of Dean Oakley.

After only a few years' work here as Dean of Manchester, Dean Oakley's career has ended. Early in the spring he was laid aside with a very severe attack of influenza, from which he has never recovered. The late Dean was by no

means an ecclesiastic or theologian only; he took a deep and active interest in the busy everyday life and affairs of this large community, and was not one of those who thought a clergyman should confine himself solely to the pulpit and church matters.

The Muzzling Order and Rabies.

Lancashire with Manchester still continue under "the muzzling order," though a protest has been made by the local authorities, who have received reply from the President of the Board of Agriculture, that until the county is free from rabies (which, unfortunately, it is not) he cannot see his way safely to cancel the order. Large numbers of dogs are and have been destroyed by the corporation, after having been found loose unmuzzled. There has been constructed a specially arranged cage and water tank in which the animals are drowned. Mr. Herbert Phillips has endeavoured unsuccessfully to have a lethal chamber provided for this purpose on the score of its more humane action.

Manchester, July 1st.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

The University Final Examinations.

TWO or three lists of the successful candidates have already been posted. The failures number about 50 per cent., this being the average of recent years, even in the final examinations.

The Cullen Prize.

The Council of the Royal College of Physicians has awarded this prize to Mr. Lawson Tait of Birmingham, and Dr. Alexander Bruce of Edinburgh. The prize was founded by Dr. Gunning, and is to be awarded triennially to the Fellow, Member, or Licentiate of the College who has made the most valuable contribution to practical medicine during the three years preceding the award. This is the first award, and the two gentlemen mentioned have been bracketed equal for it, so it falls to be divided between them. Mr. Lawson Tait's work is known to the profession; Dr. Bruce's work is less known, but consists of a laborious investigation into the course of the cranial nerve roots by means of the developmental method introduced by Flechsig.

Health of the City.

The mortality last week was 77, the death-rate being at the rate of 15 per 1000. Diseases of the chest accounted for 27 and zymotic causes for 3 deaths. The intimations for the week included 6 cases of diphtheria, 37 of scarlatina, and 30 of measles. The intimations for the first half of the year numbered 5212, for which the sum of £627 5*s.* was paid in fees. The intimations for that period included 6 cases of typhus fever, 127 of typhoid fever, 176 of diphtheria, 556 of scarlatina, and 4347 of measles.

The Social and Sanitary Society.

This Society has for one of its objects the bringing under the notice of the authorities insanitary conditions in the districts in which their work is carried on. Their last reports show the need there is for such an organisation.

St. Andrews Ambulance Association.

The annual meeting of this Association was held in Glasgow on Monday, Dr. P. A. Young, Edinburgh, in the chair. The report stated that during the year 2097 calls were made on the waggons of the Association, and 5273 pupils were instructed in first aid to the injured. The total number of centres was now twenty-six. With regard to the financial statement of the Glasgow centre, the income was £1340 and the expenditure £753. Since the Association was started upwards of 30,000 pupils have been educated.

Dundee College.

At the close of the session at Dundee College, Professor Geddes delivered the closing address, and dwelt upon the needs and aims of the Scottish Universities. He contrasted the public money spent on the Continental Universities as compared with the Scottish, and also advocated the extension in Scotland of the system of college life as it is in Oxford and Cambridge. It was also intimated that Miss E. F. Foster of London had intimated her intention of giving a scholarship of £30 per annum for the encouragement of original chemical research.

Edinburgh, July 1st.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

University of Dublin.

AT the conferring of degrees last week at the Summer Commencements of the University of Dublin, no less than seven honorary degrees were conferred, two of which were on members of the medical profession—viz., Professor J. Marshall and Dr. Quain. The Public Orator introduced Mr. Marshall as a Fellow of the Royal Society and President of the General Medical Council. He was, he said, in surgery what Dr. Quain was in medicine, and referred to his writings on the bones and veins, giving high praise to his practical surgical skill. Speaking of Dr. Quain, the Public Orator bore high testimony to his medical accomplishments, and spoke of the "crown of his fame" in his "Dictionary of Medicine," referring to his writings on diseases of the heart and lungs, and spoke of them as stoutly battling with the swarm of new maladies, this leading to a reference to the influenza (*influentia ren Grippe*). Dr. Quain had carried off the highest academical and medical honours. All the addresses by the Public Orator were delivered in Latin. The same evening a distinguished company was entertained to dinner by the Provost, Mr. John Marshall and Dr. Quain being present.

Mercer's Hospital, Dublin.

The new operating theatre is to be named the "Ledwich Theatre," in memory of the late Messrs. Edward and Thomas Ledwich, the former gentleman, who was visiting surgeon, bequeathed a large sum of money for the extension of the hospital buildings. During last year a sum of £2700, being a further instalment of the bequest of Mr. William Bannon, was received. The new wing will contain accommodation for pay patients.

Royal College of Surgeons.

The Council has recently published a statement in reference to the injustice done to their diplomates by their exclusion from certain hospital appointments in England. There can be no defence for the system adopted by certain hospital authorities, and the sooner these unjust restrictions are abolished the better.

Carmichael and Mayne Scholarships: Schools of Surgery of the Royal College of Surgeons.

The examinations for these scholarships will probably commence on Monday, the 14th inst. The subjects for the Carmichael Scholarship will comprise anatomy, physiology, and histology, chemistry, materia medica, and pharmacy; and for the Mayne Scholarship, surgery, ophthalmic surgery, medicine, midwifery, and medical jurisprudence.

Galway County Infirmary.

On Saturday, before the Lord Chief Justice and other judges, the question of granting a presentment for this infirmary was brought before their lordships. At the last Galway Assizes a resolution was proposed by one of the grand jurors that a presentment for £300 for the support of the infirmary should be passed. This was carried, but it was contended by counsel representing Dr. Pye that there was no power to pass the presentment, inasmuch as there was no duly appointed surgeon of the infirmary, Dr. Colahan, who was then in charge of the infirmary, not having been duly elected. The Court decided that, Dr. Colahan not having been duly elected, the presentment could not be *fiated*.

Poisoning by Mussels.

Fatal results have frequently arisen from the eating of salt-water mussels, and a melancholy example of this took place at Seapoint, situated on the coast some four or five miles from Dublin, a lady and her four children having died under most distressing circumstances. Some of the children gathered the mussels, and having stewed them, they were partaken of by the mother, five children, and a maidservant. Poisonous symptoms set in rapidly, and, although medical assistance was speedily obtained, five deaths took place. The principal symptoms were vomiting followed by convulsions and collapse.

The Lords Justices have authorised the expenditure of £850 for improving the drainage and supply of water and gas to Richmond District Lunatic Asylum.

Dublin, July 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Paris.

IT is a matter of surprise to all visitors of this gay city that the French, who assume to be in most things in the van of all other nations, should be so very backward in their water and sanitary arrangements in general. Each year as the summer returns a notice is published by the Municipal Council of Paris to the effect that owing to a scarcity of drinking water this latter will have to be temporarily replaced by water from the Seine. Although only temporarily, the Municipal Council seem to forget that one single draught of this water may be sufficient to cause death, as it is now generally admitted that river water is the vehicle of the germs of typhoid fever, cholera, and of many other epidemic maladies. This arrangement does not extend to all Paris at the same time, but three or four arrondissements in succession are submitted to it for a term of twenty days. The excuse for this lamentable state of things is that the public coffers will not admit of the outlay necessitated by the arrangements for bringing spring water into this city, and yet millions are spent on less necessary purposes. It is all very well to open boulevards and squares, and to plant trees in all directions, but water is as indispensable as air. M. Ferdinand Duval, late Prefect of the Seine, in writing on the subject made the remark that water should not only be in sufficient quantity but in abundance, and a city in which the inhabitants have only a very limited supply of water at their disposal he compared to a ship in distress.

Diphtheria in Fowls.

At a recent meeting of the Société de Médecine Publique, Dr. Saint-Yves-Ménard read a paper, in which he endeavoured to prove the non-identity of human diphtheria and the diphtheria of birds. MM. Cornil, Loffler, and Mégnin have shown that human diphtheria and the diphtheria of birds are two distinct maladies, produced by two microbes absolutely different. An important fact was communicated to M. Ménard by Dr. Straus, the eminent bacteriologist. A certain number of men practising the profession of "gaveurs" of pigeons at the Halles Centrales feed the birds from their mouths. The pigeons which are under their care, particularly those of Italian origin, often present a malady known under the name of "chancre," which is nothing else than diphtheria. It has never been known that any of the "gaveurs" were affected with diphtheria, nor that any child contracted the disease at the Jardin d'Acclimatation from the birds affected with diphtheria.

Spontaneous Ecchymoses in Hysteria.

Dr. Gilles de la Tourette lately read a note at the Société de Médecine Légale on Spontaneous Ecchymoses in Hysterical Subjects. The author observed that cases of this kind were not frequent as isolated cases, but were associated with other manifestations such as hæmorrhages, purpura, epistaxis, &c. Magnus Huss, however, brought to notice a very striking case, although he did not discover the exact nature of it. From the study of divers cases of spontaneous ecchymoses the author concludes that these are produced under the influence of a mental condition—after a dream, for example—in which the patient believes himself to be the object of violence on the part of other persons.

The Effects of Chloroform as an Anæsthetic.

With reference to the discussion introduced by Dr. Laborde at the Academy of Medicine on the effects of chloroform as an anæsthetic, which was reported in THE LANCET of June 21st, M. Frank admitted that chloroform can kill on the first inhalations by exciting the nasal and laryngeal mucous membranes, and in causing arrest of the heart by reflex action. Like Dr. Laborde, he believes that accidents can be prevented by diminishing the sensibility of the mucous membranes or by acting on the nervous centres. The solutions of cocaine employed by Dr. Laborde appeared to him to be sufficient in the greater number of cases. He would fear the consequences of the employment of morphine, and would not employ atropine. Experiments on animals enable one to affirm that chloroform is not more to be dreaded in cases of valvular lesions than in the normal heart. On the contrary, the danger becomes considerable if the cardiac muscle is affected. The results derived from experiment may thus be considered as agreeing with those derived from clinical observation.

The Cholera in Spain.

The Spanish Ambassador in Paris has just received a telegram from his Government, to the effect that during Sunday no new case of cholera had occurred in the villages affected by the epidemic.

Midwives and Septicæmia.

The Correctional Tribunal of L'Orient lately sentenced a midwife to six months' imprisonment. She was accused of having caused in one month, through neglect of the necessary precautions, the death of seven of her patients, who succumbed to puerperal fever.

Paris, July 1st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Emperor and Empress Frederick Children's Hospital.

THE formal laying of the foundation stone of the main building of the Emperor and Empress Frederick Children's Hospital in the north of Berlin took place in the presence of the patroness, Her Majesty the Empress Frederick, on the 20th ult. This main building is to contain the central office, the surgical, medical, and infants' wards, and will be connected by a corridor with the consulting hospital. Separated from the main edifice by ornamental grounds there are to be pavilions for diphtheria, scarlet fever, whooping-cough, and measles, each of which will be under the charge of an assistant physician. The nurses of each of these pavilions will have no intercourse with those of the others; visitors will be admitted only if urgently necessary, and will be required to take a bath and have their clothes disinfected before leaving; and the food will be brought by mechanical means underground. The consulting hospital, the diphtheria and scarlet fever pavilions, the washing house, and the mortuary are to be opened next month. The whole hospital will contain 258 beds, but it is not yet known when it will be finished. The whole cost will be about 1,400,000 marks (nearly £70,000), of which only 800,000 marks have yet been collected. At the ceremony Professor Virchow spoke as follows:—"In laying the foundation stone of the Emperor and Empress Frederick Hospital for Children this assembly has a beautiful and noble task to perform, and greets with great joy the presence of the august lady who has permitted her name and that of her never-to-be forgotten consort to be united with that of the institution. The name will not be a mere form, but an admonition that the spirit of the noble pair, the spirit of true humanity, which embraces all creeds, all classes, and all races without distinction, may at all times rule in the establishment. The Emperor and Empress Frederick Hospital is not intended to be a common children's hospital, but will mainly aim at combating infectious diseases, to which many thousands among us fall victims. In 1884 alone no fewer than 8921 cases of diphtheria, 2446 of which were fatal, occurred in Berlin. This is due to infection from person to person, by which the disease spreads even into the highest classes, and timely isolation is the only way to prevent it." The Professor alluded to London, where there are so many children's hospitals, and exhorted his hearers to great liberality in support of the institution. He thanked the Empress Frederick for the keen interest she has taken in the enterprise, and for devoting to it the Emperor Frederick Fund of 500,000 marks. In conclusion, he expressed the hope that the hospital would protect the district in which it is being erected from epidemics.

The International Medical Congress.

The municipal committee appointed to determine the part to be played by the city of Berlin on the occasion of the approaching International Medical Congress has completed its programme. Every member of the Congress will be at liberty to visit the municipal institutions at any time. For those institutions, however, which are at some distance from the city, or for the inspection of which special preparations are necessary, certain days have been appointed. The programme is as follows: Monday, August 4th, inspection of the disinfection establishments and the slaughter-house; Tuesday, inspection of the water works at Tegel

Lake, and a banquet in the Town Hall in the evening; Thursday, inspection of the irrigation fields in the south of the city; Friday, inspection of the irrigation fields in the north; Saturday, a visit to the lunatic asylum at Dalldorf, followed by a *fête* at the New Palace, the Emperor's residence near Potsdam. In the medical exhibition in the Exhibition Park the city will exhibit the newest mechanical improvements in the Berlin hospitals, models, drawings of municipal buildings, and hygienic apparatus. A description of the hygienic and therapeutic institutions of the city, with illustrations, edited by the scientific assistant of the municipality, Dr. Buchholtz, under the superintendence of Professor Virchow, will be distributed among the members of the Congress.

Berlin, July 1st.

THE SERVICES.

ARMY MEDICAL STAFF.—Surgeon Henry Wm. Martindale Kendall resigns his commission (dated July 2nd, 1890).

ADMIRALTY. — The following appointment has been made:—Surgeon Edward H. M'Sherry to the *Speedwell* (dated July 1st, 1890).

INFANTRY VOLUNTEER BRIGADES. — Forth Brigade: Surgeon and Surgeon-Major Sir Douglas Maclagan, Knt., M.D., the Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment), to be Brigade Surgeon, ranking as Lieutenant-Colonel (dated June 28th, 1890).—Tyne and Tees Brigade: Surgeon and Surgeon-Major J. Mitchell, 2nd Volunteer Battalion, the Durham Light Infantry, to be Brigade Surgeon, ranking as Lieutenant-Colonel (dated July 2nd, 1890).

VOLUNTEER CORPS. — *Artillery:* 2nd Cinque Ports (Eastern Division, Royal Artillery): Surgeon-Major (ranking as Lieutenant-Colonel) R. C. N. Davies resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Corps on his retirement (dated June 28th, 1890).—3rd Lancashire: Jas. Simpson Clayton, M.B., to be Acting Surgeon (dated June 28th, 1890).—1st Ayrshire and Galloway: David Lawrie, M.B., to be Acting Surgeon (dated June 28th, 1890).—2nd Volunteer Battalion, the Duke of Cornwall's Light Infantry: Surgeon W. Hammond, from the 2nd Volunteer Battalion, the Royal Warwickshire Regiment, to be Surgeon (dated June 28th, 1890).—1st Volunteer Battalion, the Royal Warwickshire Regiment: Acting Surgeon Arthur Thomas Holdsworth, M.D., is appointed Second Lieutenant (dated June 28th, 1890).—3rd Volunteer Battalion, the Royal Fusiliers (City of London Regiment): Edward George Younger, M.D., to be Acting Surgeon (dated June 28th, 1890).—3rd (Glamorgan) Volunteer Battalion, the Welsh Regiment: John Tatham Thompson, M.B., to be Acting Surgeon (dated June 28th, 1890).—1st Volunteer Battalion, the Sherwood Foresters (Derbyshire Regiment): Antony Bernard Chambers, M.D., to be Acting Surgeon (dated June 28th, 1890).—2nd Volunteer Battalion, the Suffolk Regiment: Acting Surgeon J. Hodges resigns his appointment (dated June 28th, 1890). 2nd Volunteer Battalion, the Manchester Regiment: Acting Surgeon C. A. J. Robertson resigns his appointment (dated June 28th, 1890).

Obituary.

WILLIAM HENRY PAINE, M.D., F.R.C.P.

THE subject of this notice was born at Stroud in the year 1824, and was the son of the late John Paine, Esq., the first manager of the Stroud branch of the Gloucestershire Banking Company. He received his medical education at University College, London, and commenced practice in Stroud in 1851. For thirty-five years he held the appointment of honorary physician to the Stroud Hospital, giving up a large amount of time and labour to the duties of that office. He was greatly beloved by his patients in every class of society, while his medical brethren evinced their confidence in his skill and judgment by the frequency with which they sought his aid in consultation. To the poor he was ever a generous helper; to the distressed a sympathising friend and wise counsellor. He took an active interest in scientific pursuits, and was for twenty-two years honorary secretary to the Cotteswold Naturalists' Field Club—a position which he valued as bringing him into close association with a band of earnest workers, amongst whom he counted some of his dearest friends. Many of them, to his sorrow, had passed away before him. Sir William Guise, the Rev. W. Symonds, Thomas Wright, Edwin Witchell, and Francis Day were colleagues to whom he was much attached, and whose loss he sincerely deplored. He was a Fellow of the Geological Society and of the Royal Meteorological Society. In his later years he was a Justice of the Peace of the county of Gloucester, and, having a natural leaning towards the law, he was most assiduous as well as conscientious in the discharge of his magisterial functions. Few objects of public utility in the town failed to secure his support, and in all the more important he was a leader and ardent worker. The drainage of the town, the water-supply, the establishment of a public cemetery, and the foundation of a School of Art may be mentioned among the objects in which he was deeply interested. As a member of the School Board, a guardian of the poor, chairman of the Feoffees of the Stroud Charities, and chairman, in its early years, of the Local Board of Health, as well as in other public capacities, Dr. Paine did the work of a good citizen with singleness of purpose. His health began seriously to fail in the winter of 1888–89, when he found increasing weariness in his professional and other work, and in the spring of 1889 he was persuaded to seek complete rest from practice, spending some weeks with his brother-in-law, Dr. Edwards of Cardiff, and afterwards making a more prolonged stay at Torquay, which was his favourite summer resort. Some improvement followed, raising hopes of recovery, which, however, were doomed to disappointment, his weakness increasing to such an extent as to confine him almost entirely to his bed during the last six months of his life. The nature of his illness was for some time obscure, indications of localised disease being slight and uncertain, notwithstanding a marked and continuous loss of flesh and strength. Later on it became evident that the lungs were gravely affected, although nearly to the last the constitutional symptoms appeared to be in advance of the local mischief. He died on June 13th, and was buried in the picturesque grounds of the cemetery which he had himself been so largely concerned in promoting, amid demonstrations of public respect and sympathy such as have rarely been witnessed in the neighbourhood. Dr. Paine married in the year 1850 a daughter of the late John Burder, Esq., of Codham Hall, Essex, and this lady survives him, together with eight sons and daughters.

CHARLES WILLIAM PRIDHAM, F.R.C.S. EDIN.

THE subject of this notice was born at Bideford, Devonshire, on April 21st, 1832. He was educated at Bideford Grammar School under Dr. (afterwards Canon) Fowler of Gloucester. Subsequently he commenced the study of medicine under his father, Thomas Lawrence Pridham, J.P., M.R.C.S., coroner for the borough of Bideford. During the severe outbreak of cholera in 1854 his untiring devotion and self-sacrifice received recognition from the inhabitants of Bideford and neighbourhood, who presented him with a valuable watch. At this time he was only eighteen years of age. Proceeding to Edinburgh, he studied at the Royal Infirmary under Christison, Pringle, Beddoe, and others whose names are known to fame. In 1854 he obtained Simpson's prize and medal for Practical Obstetrics. In the following year he was elected house physician under Dr. Andrew, and served the office for twelve months with great distinction. In 1857 he settled down at Cardiff, but his health failing, he removed to Paignton, South Devon, a year later. There he remained for twenty years, prosecuting a successful professional career. In 1878 he came to London, and practised at Kensington from that time to the time of his death, which occurred on June 16th of the present year. Charles William Pridham was a Fellow of the Royal College of Surgeons of Edinburgh, a Member of the Royal College of Physicians of Edinburgh, and a Member of the English College of Surgeons. From a very intimate knowledge the writer of this notice can say that he has rarely met a higher type of the general practitioner. Mr. Pridham was possessed of high scientific attainments, and was especially versed in electrical knowledge, which he turned to practical account by inventing several ingenious processes. He was a man of indomitable energy and un-

ceasing attention to duty. Though suffering from a severe cardiac affection, which eventually terminated his life, he refused to cease from his labours until within a few weeks of being called to his rest. His kindly disposition will be remembered by all who had the good fortune of his acquaintance. Mr. Pridham leaves three sons and a daughter to mourn their loss.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the Second Examination of the Board in the subjects indicated:—

Anatomy and Physiology.—Harold W. L. Harding, student of Cambridge University and St. Bartholomew's Hospital; Fredk. Ernest Cook, George Kimball Jones, Albert Leigh, and Charles Vincent McCormack, of University College, Liverpool; James Johnstone, of Dunedin and Aberdeen Universities; Jas. Chas. Buckley, Charles Fredk. France, Edward S. Hamer, and John E. Horrocks, of Owens College, Manchester; Chas. A. Harrison, of Queen's College, Birmingham, and London Hospital; John Orton, of Queen's College, Birmingham; James Clay Beckitt and Hugh Rhodes, of Glasgow University; Arthur J. Nyulasy, of Melbourne University; Humphry J. Thomson, Wm. A. Marris, and Cecil D. D. Roberts, students of Queen's College, Birmingham; Meaburn F. Staniland, of Bristol Medical School; Richard Price and John Whitmore, of Owens College, Manchester; Charles D. Cardinall and Harry N. Wood, of St. Bartholomew's Hospital.

Anatomy only.—Percy R. Ash and Thos. Abbey Bottomley, of Yorkshire College, Leeds; Francis W. Cave, of Bristol Medical School; Alfred H. Godwin, of University College, Liverpool; J. A. Dawes, of Owens College, Manchester; Herbert W. G. Bloomfield, of St. Bartholomew's Hospital; Edward E. Cass and Wm. Handcock, of Yorkshire College, Leeds; Charles H. Wright, John Tait, Sydney Carter, and E. Johnstone, of Owens College, Manchester; Edward G. Walls, Cecil B. Hillyar, John T. West, and Edwd. C. Wimberley, of Queen's College, Birmingham; Bhola Nath, of Lahore University; Jas. Cragie, of University College, Liverpool; Walter R. Hadwen, of Bristol Medical School; Francis H. Spilsbury and A. E. Ridsdale, of St. Thomas's Hospital; E. W. Sharman, of Guy's Hospital and Mr. Cooke's School of Anatomy and Physiology; R. L. Meade-King, of St. Bartholomew's Hospital.

Physiology only.—John Nicholson, of Yorkshire College, Leeds; Flavell Edmunds, of Sheffield Medical School; Geo. H. Housman and Geo. A. Wilkes, of Queen's College, Birmingham; Fredk. H. de Graves Best and Daniel L. E. Bolton, of St. Bartholomew's Hospital; Sidney Wilkinson, of University College, Liverpool; John N. Platt, of Owens College, Manchester; Herbert Taylor, of Yorkshire College, Leeds; John H. Moore, of University College, Liverpool; James A. Crump, of St. Bartholomew's Hospital; A. D. Mansfield, of Maryland University; Edward T. Walker, J. E. Heckman, W. W. Darlington, and Walter H. Allen, of Queen's College, Birmingham; H. Litherland, of Owens College, Manchester.

UNIVERSITY OF OXFORD.—At the last congregation the degree of M.B. was conferred upon

Donald F. Shearer, New College.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentleman, having passed the necessary examination, has been granted the diploma in Public Health of the College:—

Edgar Vaughan Phillips, M.R.C.S., L.R.C.P. Lond. (1888).

UNIVERSITY OF DUBLIN.—The following degrees were conferred last week:—

Doctor in Medicine.—Samuel Wm. Allworthy, Edmund B. Delacherois, Richard Thomas Hearn, Robert Warren Herrick, Henry William Jacob, Edward Kingsbury, Wm. Napper Nevill, Alexander Ogilvy, William Andrew Orr, Ernest Augustus Slaughter, Thomas Edward Smyth, and Edmund Fitzgerald Bannatyne Wilson.

M.D. (Honoris Causa).—John Marshall and Richard Quain.

Bachelor in Medicine, Surgery, and Obstetrics.—Rudolph Richardson Brumskill, Herbert Unsworth Byrne, Lyster Cole-Baker, Thomas Eagleson Gordon, Frederick James Green, Henry William Jacob, Lucian Gerald Armstrong, M'Donnell, George Robert MacMahon, William Charles Minchin, Thomas Myles, Michael Andrew Rynne, Robert Bindon Stoney, William Henry Playfair Vickers, and Digby Cook White.

Licentiate in Medicine, Surgery, and Obstetrics.—Michael Joseph Bulger.

Bachelor in Medicine.—John Alexander Dockeray.

ROYAL INFIRMARY, DUNDEE.—The annual report of this infirmary for the past year shows that 325 patients were admitted in excess of 1888, 5040 patients attended the infirmary waiting room, and the district surgeons had visited 6550 at their homes. The revenue statement exhibits a deficiency, for the year, of £745 9*s.* 3*d.* It was agreed, in order to reduce the debt of £720 on the Convalescent Home, to grant £500 from the general funds of the infirmary.

ON the 27th ult. the Duke of Clarence and Avondale visited Scarborough for the purpose of opening the new promenade and pleasure grounds recently constructed on the north side. The Duke was accompanied by the Archbishop of York, and conducted through various streets of the town to the North Bay, where, after receiving addresses, his Royal Highness formally declared the promenade open.

GREAT YARMOUTH HOSPITAL.—The fifty-second annual report, just issued, shows that the first complete year's working of the new and enlarged hospital is satisfactory. During the year there had been an increase of seventy-one in-patients and a decrease of out-patients. The balance-sheet showed that the income for the past twelve months had exceeded the expenditure by £98 8*s.* 4*d.*

NEW PARKS.—The new park which has been presented to the London County Council by the governors of Dulwich College was opened on Thursday, June 26th, by Lord Rosebery. Nearly sixty members of the Council accompanied the noble earl.—At South Shields on Wednesday, June 26th, a general holiday was given on the occasion of the opening of the Public Marine Park, which consists of several acres, and which cost £22,000. The park was opened by Sir John Mowbray. A Jubilee memorial, erected at a cost of £500, was unveiled on the same day.—The Mayor of Maidenhead, Mr. James D. M. Pearce, J.P., has offered his Kidwells Park Estate to the borough for a recreation and pleasure ground. The park is twelve acres in extent, is situated in the heart of the town, and is worth £12,000.

THE UNITED HOSPITALS' ATHLETIC SPORTS.—The annual meeting of the United Hospitals was held at Stamford-bridge Grounds on Tuesday. St. Bartholomew's won the Shield for the sixth successive year, winning all the contests with the exception of two, the High Jump and the Mile. The prizes were presented by Mrs. Critchett, the wife of the president; referee, F. R. Cross; timekeeper, P. Furnival, except for the heats of the 100 Yards. 100 Yards Race—Final heat: B. C. Green, St. Bartholomew's, 1; G. S. S. Marshall, Middlesex, 2; J. J. Biggs, Guy's, 3; G. Hancock, Westminster, 0; won by inches only; a yard and a half between second and third; time, 10⅘ sec. Half-mile Challenge Cup—A. R. Badger, St. Bartholomew's, 1; J. G. Turner, St. Thomas's, 2; L. A. Williams, Middlesex, 3; won by twelve yards; a yard and a half between the next two; time, 2 min. 6⅘ sec. Putting the Shot—W. G. West, St. Bartholomew's (holder), 36 ft. 4½ in., 1; J. S. Mackintosh, St. Bartholomew's, 34 ft., 2; C. Rolfe, London, 33 ft. 5⅜ in., 3. 120 Yards Hurdle Race—Final heat: B. G. Green, St. Partholomew's, 1; S. Langton, St. Mary's, 2; G. S. S. Marshall, Middlesex, 0; won by five yards; only two finished; time, 17 sec. Long Jump—R. P. Hogarth, St. Bartholomew's (holder), 19 ft. 8 in., 1; J. M. Hetherington, King's College, 19 ft. 3½ in., 2; R. M. Badger, St. Bartholomew's, 19 ft., 3. 220 Yards Race—Final heat: B. C. Green, 1; G. S. S. Marshall, 2; J. J. Biggs, 3; J. W. Summerhayes, 0; R. G. Hogarth, 0; L. Kilroy, 0; won by a yard; two yards between the next two; time, 23⅕ sec. Throwing the Hammer—J. E. Fraser, St. Bartholomew's, 93 ft. 10 in., 1; C. D. Leydon, St. Mary's (holder), 84 ft. 10 in., 2; G. S. Mackintosh, St. Bartholomew's, 64 ft. 3 in.; the winner afterwards threw 94 ft. 8 in. One Mile Race for Challenge Cup—C. Wace, King's College, 1; A. Quennell, St. Bartholomew's, 2; R. G. Fox, St. Bartholomew's, 3; Wace made all the running, and won by seventy yards; about thirty yards separated second and third men; time, 4 min. 38½ sec. High Jump—P. Pierre, Westminster, 5 ft. 2½ in., 1; F. Goodhue, St. Thomas's, 5 ft. 2½ in., 2; H. O. Davies, St. Bartholomew's, 0; S. Langton, St. Mary's, 0; Goodhue, Davies, and Langton tied at 5 ft. 1½ in., and in jumping off for second place Goodhue won by clearing 5 ft. 2½ in. 440 Yards Race for Challenge Cup—B. C. Green, St. Bartholomew's, 1; R. N. Martin, St. Bartholomew's, 2; J. G. Turner, St. Thomas's, 3; won by four yards rather more between second and third; time, 53⅘ sec. Three Miles Race for Challenge Cup—A. Quennell, St. Bartholomew's (holder), 1; A. W. Cooper, King's College, 2; P. Willmot, Guy's, 3; the holder soon went to the front, and in the end won by seventy yards, Cooper being 150 yards in front of the third man; time, 16 min. 19⅘ sec.

HYDROPHOBIA IN BELGRADE.—A serious outbreak of hydrophobia in this city was reported on the 26th ult.

THE JUBILEE COTTAGE HOSPITAL, CHESHUNT.—Lady Meux formally opened this hospital on Saturday last.

APPOINTMENT AT OXFORD UNIVERSITY.—Professor Ray Lankester has been elected to the post of Deputy and Acting Professor of Anatomy in the University of Oxford.

DEAF AND DUMB ASYLUM, MARGATE.—At the summer meeting of the subscribers to this asylum, held at Margate on Saturday last, the Lord Mayor presiding, a boy fifteen years of age, born deaf and dumb, addressed his lordship very distinctly, every word being understood by those present.

EAST SUFFOLK AND IPSWICH HOSPITAL.—The annual report for the past year shows the increasing benefits bestowed by this institution. During the year there had been an increase of 77 in-patients, and 373 out-patients on the year 1888. The receipts amounted to £5479 19*s.*, and the expenditure to £4075 15*s.* 7*d.* The capital account amounts to £27,253 7*s.* 7*d.*

HANDSOME GIFT TO A HOSPITAL.—Mr. J. Geare, of Exeter, who has already made numerous donations to the Devon and Exeter Hospital, has added to the number by placing £1400 in the 2½ per Cents. at the disposal of the Samaritan Fund of the hospital. The Samaritan Fund was formed for the purpose of helping patients to visit the seaside, or to go to convalescent homes, and was recently reported to be greatly in need of funds. Mr. Geare's handsome and timely gift is placed in the hands of three trustees, and is much appreciated.

SALFORD AND ITS INSANITARY DWELLINGS.—The mayor (Mr. B. Robinson) presided last week at an adjourned meeting of the inhabitants, upon the question of housing of the poor. There was a large attendance. The chairman stated that the meeting was convened for the purpose of assisting the corporation, and if they dealt with the matter from that point of view, valuable aid might be rendered. A lengthened discussion ensued. Ultimately the resolution moved at the previous meeting was unanimously carried, which called upon the sanitary authority to remove the insanitary dwellings without further delay, and to substitute dwellings of a healthy character.

PRESENTATIONS.—On June 28th a handsome piece of plate was presented by the staff of the Rubery-hill Asylum, Worcestershire, to Dr. Lyle, on his resignation of the office of medical superintendent, which he has held for eight years and a half, and which he is now giving up with a view to entering on private practice.—Mr. Walter Weir, M.B., F.R.C.P., Edin., has been presented by the inhabitants of New Town and other districts of Upper Norwood, on the occasion of his removal, from ill health, from the neighbourhood, with an illuminated address, as a testimony of friendship and regard. At the same time a handsomely bound Bible was handed to Mrs. Weir as a token of esteem.

ST. MARY'S HOSPITAL, PADDINGTON.—The annual distribution of prizes and certificates of honour to the successful students of this medical school was made by Sir Henry Roscoe, M.P., on Tuesday. The scholarships announced consisted of entrance scholarships in natural science of 50 guineas each to Mr. A. E. Wilson, Mr. H. J. K. Bamfield, Mr. A. Stanley, and Mr. A. W. Sanders; University entrance scholarships of the same amount to Mr. E. A. Shaw, B.A., and Mr. A. Senior, B.A.; an Epsom scholarship of the value of £105 to Mr. H. J. Lawrence; a classical scholarship of £50 to Mr. E. G. Mayo; and an exhibition in natural science of £25 to Mr. E. Morgan.

HOURS OF WORKING WOMEN.—M. Richard Waddington, as chief of the committee which was appointed by the French Senate to inquire into the working hours of French women and young persons, has just presented his report, in which he proposes that no one under thirteen shall be allowed to work in factories or mines; that every one so employed under sixteen must have a certificate of physical ability; that no lads under eighteen, girls under age, or women shall work more than ten hours a day, or be engaged in night toil. There are also recommendations that all young people and women shall have a weekly rest equivalent to the English Sunday.

COTTAGE HOSPITALS.—The report of the Committee of the Royston Cottage Hospital for 1889 shows that the income for that year is quite up to the average of former years; 918 patients have been admitted to the hospital during the twenty years of its existence.

POISONING FROM LEMONADE DRINKING.—At Ditchita, Kansas, last Saturday, a picnic party of one hundred persons were poisoned by drinking lemonade containing some deleterious substance. Three persons have died, and many others are in a dying condition. It was undoubtedly owing to the prompt medical assistance which was forthcoming that so many lives were saved.

NORFOLK AND NORWICH HOSPITAL.—At a recent meeting of the governors, the trustees of the institution were presented with a portrait painted by Mr. Hubert Herkomer, R.A., of Mr. William Cadge, F.R.C.S. (the senior surgeon and the donor of £10,000 towards the completion of the new hospital), as a token of appreciation by the subscribers of his great services for the past thirty-six years and of his noble gift. It was announced that Mr. B. E. Fletcher of Marlingford Hall, Norfolk, had offered to erect and furnish a home for convalescent patients treated in the hospital, and also to give £100 a year towards its maintenance, the total sum required for that purpose being about £400 per annum. It was also announced that the Earl of Leicester had offered to give £15,000 for its endowment, and, if necessary, a further sum not exceeding £5000. These offers were thankfully accepted.

AMBULANCE WORK.—This work is going on well in Peterborough. The men belonging to the Great Northern Railway Company last September formed a class of sixty members; this was, after the course of lectures given, examined by Dr. Newman of Stamford, when all passed but three. In December a second class of forty was formed, and again examined by Dr. Newman; all passed but one. The three members of the first class who failed presented themselves again and were successful. The directors returned the men the fees they had paid for class expenses. Dr. Easby, who taught both classes, was presented by the members of the first class with a valuable silver-mounted Malacca cane, and by the members of the second class with a beautiful writing cabinet. A third class is undergoing tuition now, and names for a fourth class are being received.

PRIZE DAY AT GUY'S HOSPITAL.—The annual distribution of prizes took place on Wednesday, June 25th, when Dr. Perry presented his report for the past year. The entries last October were larger even than was anticipated. There had been an increase of eleven students over the previous year, and the total number was 144, as compared with 103 for the year preceding. The students had acquitted themselves well in all examinations. He regretted the retirement of Dr. Pavy, and referred to the distinguished services to science which he had rendered and his devotion to the hospital. They were indebted to Dr. Pavy for the new gymnasium now open. Dr. Pavy will be succeeded by Dr. Hale White. The dental school had so steadily increased as to necessitate greater accommodation and more numerous appliances. More than one thousand dental operations had been performed during the month of May. Mr. S. Hoare, M.P., presented the prizes.

QUEEN VICTORIA'S JUBILEE INSTITUTE FOR NURSES.—A statement has been issued by the trustees as to the past and present position of this institute to the effect that, as the sum of £70,000 has been given by Her Majesty for the purpose of forming an institute for the promotion of the nursing of the sick poor in their own homes, they have given effect to the beneficence of Her Majesty by devoting the interest (£2000 a year) to the formation of central institutions where the training of nurses for the work of the institute could be brought up to the highest possible standard, hoping that the work of tending the sick poor in their own homes by thoroughly trained nurses would eventually be widely extended. The committee have made arrangements for the establishment of various branches throughout the country, and have appointed superintendents for each. The Council desire to satisfy themselves that the work of training nurses which is being carried on at different institutions is of such a character and standard as will admit of their being affiliated to the Queen's Institute if so desired.

THE AMERICAN CENSUS.—From an announcement made by General Robert Porter, the chief of the Census Bureau, the result of the census just completed shows that the population of the United States amounts to 64,500,000 souls, an increase on the last census, taken ten years ago, of 14,000,000.

SOCIETY FOR THE STUDY OF INEBRIETY.—A quarterly meeting was held at the Medical Society's rooms in Chandos-street on Tuesday last, the President, Dr. Norman Kerr, in the chair. In the unavoidable absence of Mr. Crespi, the President presented a *précis* of a report to the American Society on Nostrums. A large number of professed "cures" for inebriety had been analysed, many of which were stated to be non-alcoholic. The analysis showed that all contained alcohol, ranging from 7 to 49 per cent. Of the "opium cures," all contained opium except one, which, though a reputed preparation of gold, gave no reaction to tests for that metal. After a discussion, in which Dr. Jabez Hogg, Dr. Paramore, Mr. L'Oste, Mr. W. Gourlay, Dr. Williams, and Mr. F. J. Gray of Walsall took part, it was resolved: "That, as much interest is caused by the use of alcohol and opium under the insidious form of patent medicines and so-called "cures" for intemperance, this meeting is of opinion that no proprietary medical preparation should be allowed to be sold unless its exact composition is printed on the cover."

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mrs. Susan R. Hopper of Clifton has bequeathed £1000 each to the Bristol General Hospital and the Royal Infirmary.—Mr. Wm. Henry Olley, late of the Mildmay-road, Stoke Newington, has left by his will £200 each to the London Hospital, Whitechapel-road, and the Royal Hospital for Incurables; £100 each to the City of London Hospital for Diseases of the Chest, the City of London Dispensary, and East London Dispensary, and £30 to the Islington Dispensary.—Under the will of the late Mr. Frank Linsey James (Great Stanhope-street), the Royal Hospital for Incurables receives a legacy of £5000.—The Duke of Portland has sent a donation of £350 to the Rous Memorial Hospital.—The Grocers' and Mercers' Livery Companies have granted donations, respectively, of £50 and 10 guineas to the National Truss Society. King William-street.—Miss Mary Ann Swarbrick, late of Bolton, has bequeathed £100, free of legacy duty, to the Bolton Infirmary.—The late Mr. Henry Willis of Worcester has left £100 to the Worcester Dispensary and Provident Medical Institution.

CONVALESCENT AND HOLIDAY HOME FOR NURSES. On Wednesday afternoon Princess Christian presided at a meeting held at 9, Connaught-place, the residence of Mr. and Mrs. Mocatta, in aid of the Convalescent and Holiday Fund for Nurses. In the absence of the Chief Rabbi, the Rev. Morris Joseph submitted a resolution pledging the meeting to support the Fund by every means in its power. He explained that the committee proposed to establish a home at Brighton, to which overworked and ill-paid nurses could repair for rest, and when recovering from illness. Miss Annesley Keneally, in seconding the resolution, called attention to the long hours of incessant labour of nurses. Their lives were not so beautiful as depicted in novels; they had really no time for sentiment. So few opportunities had they for recreation that many of them were in the habit of taking a journey on the Underground Railway for a change, in wet weather. They were very glad to have so much sympathy, but it was most appreciated and did most good when it took the form of cheques. The sum of £200 was immediately subscribed by those present, including £100 from Mrs. Lucas and £20 from Mr. and Mrs. Mocatta. The resolution was adopted, and after thanking her Royal Highness for presiding, the meeting separated.

MEDICAL NOTES IN PARLIAMENT.

Infectious Diseases (Prevention) Bill.

IN the House of Lords on Thursday, June 26th, Lord Lamington, in moving the second reading of this Bill, said that it was very generally approved throughout the country. Its provisions would be compulsory only in London. In the country their enforcement would be left to the discretion of the authorities.—Lord Balfour gave notice on behalf of the Secretary for Scotland to move in Committee an amendment to the effect that the Bill should not apply to Scotland, where a law already existed on the subject.

Cholera in Spain.

The Earl of Jersey, in reply to a question from Viscount Sidmouth, said that it was the intention of the Government to pursue in the present instance the system which was in force in 1885 at the time of the serious outbreak of cholera in Southern Europe, which was that whenever a vessel arrived from a foreign country inquiries were made as to the state of the people on board by the Custom House officer, who would take all needful steps for the disinfection of the sick if there should be any. The Government would watch most carefully the continuance of the outbreak.

Contagious Diseases (Animals, Pleuro-Pneumonia) Bill.

On the motion to go into Committee on this Bill, the Earl of Camperdown, referring to remarks made by the Marquis of Huntly with regard to the non-carrying out of the Acts in Forfarshire, said that, as chairman of the County Council, he could state that the law was rigidly carried out.—The Bill passed through Committee without amendment, on the Government promising to fully consider the necessity for imposing still heavier penalties in the case of a person failing to give proper notice of having a diseased animal in his possession, or of selling, moving, or transferring a diseased animal.

On Tuesday, July 1st, the Earl of Jersey moved the third reading of this Bill. The Minister of Agriculture and himself had considered, as suggested on a former occasion, certain points in relation to the appointment of inspectors and other officers to carry out the Act, retrospective compensation, and the withholding of compensation from persons who had not reported the possession of diseased cattle. They had come to the conclusion that under the Bill as it stood there was ample power to appoint inspectors; it would require a separate resolution to make the provisions of the Bill apply to cattle slaughtered previous to its coming into operation. On the third point there was a slight difference of opinion, but the Minister for Agriculture thought the measure sufficient to cope with any case of the kind that might arise.

The Army Medical Department.

In the House of Commons, on Monday, June 30th, the Secretary of State for War, in reply to Dr. Farquharson, stated that he did not consider it necessary to lay on the table of the House the memorials and communications received from the various medical colleges, urging the carrying out of the recommendations of the Departmental Committee on the Army Medical Department, but hon. members could see them if they desired to do so.

Immigration of Italians.

Sir J. Colomb, having asked whether attention had been drawn to the statements made in evidence at Wandsworth Police-court by Inspector Holland, that a family of immigrant Italians, consisting of eight persons, with a cat, monkey, and white mice, were all living in one miserable apartment; and that within a short period 200 destitute Italians had arrived in this country.—Sir Michael Hicks-Beach said he was informed that the inspector did not make the statement that 200 destitute Italians had immigrated into this country. The family to which the first question referred had been sent for by a relative here, who was now bound over in the sum of £25 as a guarantee for the good conduct of the father of the family. All possible steps were being taken to give effect to the recommendations of the Select Committee.

Lunatics.

The Home Secretary, in answer to a question by Mr. Rankin, said that he was informed by the Lord Chancellor that near relatives of lunatics were appointed acting committees at lunatic asylums. They were in many cases the best appointments that could be made. Full inquiry would be made into the case of any particular person about whose welfare there were doubts.

Adulterated Foreign Butter.

Mr. Lane asked whether the Customs officers had taken any steps to detect the importation of adulterated foreign butter, and, in reply, Sir H. Maxwell said that no samples of butter had been taken for analysis, as no information had been received as to the importation of adulterated butter fraudulently marked. The Commissioners of Customs would have samples taken if they had reason to suppose that adulterated butter was being imported.

Education of Blind and Deaf Mutes.

In reply to Mr. Woodall, Sir W. Hart-Dyke said the Bill for the education of the blind and deaf mutes in England and Wales would shortly be introduced in the House of Lords, but its progress this session would depend upon the state of business, and whether its provisions proved generally acceptable.

Local Government Acts.

On Tuesday, July 1st, on the motion of Lord Denman, leave was given to introduce a Bill to amend the Local Government Acts for England and Scotland. The Bill was introduced and read a first time.

Pharmacy Act (Ireland) (1875) Amendment Bill.

On Wednesday, the 3rd inst., the House resumed the consideration of this Bill. Mr. Sexton moved a clause providing that apprentices who had served a full period of seven years to a chemist or druggist should be entitled to register under this Act without complying with its other provisions. This was agreed to. Clauses 13, 14, and 15 were omitted.

Pauper Lunatic Asylums (Ireland) (Officers' Superannuation) Bill.

This Bill, as amended, received further consideration.

THE SELECT COMMITTEE ON METROPOLITAN HOSPITALS.

This Committee resumed its sitting on Monday, June 30th, Lord Sandhurst presiding. The first witness to be examined was Miss Ellen Mary Yatman, who had been employed at the London Hospital for eighteen months. On entering she paid thirteen guineas for board and lodging. She lodged in the nursing home then attached to the hos-

pital. There were thirty beds in one ward, attended by one sister, two staff nurses, and probationers, appointed by the matron. Sometimes inexperienced nurses had responsible duties to perform in the wards, and she had known cases in which recovery had been retarded in consequence.

Lord Sandhurst: You suffered very much in health at the London Hospital?—Witness: Yes; I left the hospital suffering from blood-poisoning caused by sewage gas. Cases of this kind often occurred, and many of the nurses were incapacitated during their service from sore-throat and other hospital diseases. Referring to the subject of the duties of the nurses, it was stated that probationers in the out-patient department were supposed to be off duty from ten to twelve in the morning, and that was the only time they had to themselves independently of the time allowed for meals. The witness considered the staff insufficient for the work, and stated that no extra nurses were employed when the number of patients increased. The witness proceeded to detail the kind and qualities of the food provided for the nurses, which she characterised as inadequate and unsuitable to sustain them under their very hard work. They did not complain when the food was bad as they had met with no redress previously. The meat and puddings supplied were often very badly cooked, and there was no alternative but to leave them and go without. Night nurses had to provide themselves with spoons, knives, and forks. They had to carry their butter backwards and forwards with them every time they went to and from the wards, and generally had to cook their tea at the ward fire. The witness considered the staff utterly inadequate, but she was not aware that any of the physicians or surgeons had complained of the inadequacy of the staff; she did not think they had inquired into it. Probationers could not complain to the members of the staff. Witness was of opinion that there were too many paying probationers in the hospital, who only stayed three months, and then untrained persons were brought in to fill their positions. She thought it would improve matters to have the staff increased, as at present it fell upon the probationers.

In reply to the Archbishop of Canterbury, witness stated that the food of the patients was better in quality and better cooked than that of the nurses.

In reply to Lord Thring, witness said that the matron had the complete management of the nurses. They were engaged by her subject to the approval of the house committee.

In reply to Lord Monkswell, the witness considered that the sisters had no time which they could devote to systematic teaching of the nurses. That, in her opinion, did not exist in the hospital so far as probationers were concerned. The witness stated that £1200 a year was the sum brought into the hospital by private nursing. Probationers were sometimes sent out to nurse private patients, for which they earned 30s. or £2 a week for the hospital, while the nurse was receiving only £20 a year. It was advertised that thoroughly trained nurses were supplied, but in many cases the persons sent out were only probationers. She considered that the advertisement was misleading, and the money received for these probationers was received under false pretences.

Miss Mary Raymond, who was the next witness, corroborated all that had been stated by the previous witness; and in reply to a question by Lord Thring, said that the probationers had to perform such menial work as cleaning out the lavatories, emptying slops, and dusting the rooms.

Miss Dickinson corroborated the evidence of the two previous witnesses.

The next witness examined was Miss Page. She entirely corroborated the evidence of Miss Yatman. She said that she had been dismissed from the London Hospital for consulting an outside physician when unwell and dissatisfied with the attention she received inside the hospital.

The Rev. Tristram Valentine, formerly chaplain to the London Hospital, was next examined. He handed in as evidence a number of letters dated April of this year which had passed between himself and Mr. Ind, the chairman of the house committee of the London Hospital, in which he complained of the unfair manner in which nurses were dismissed; of the lack of proper care received by nurses in sickness; though while the hospital advertised to send out thoroughly trained nurses to private patients, they sent out uncertificated probationers. Notwithstanding his complaints, practically the same state of things still existed, except that in the case of the dismissal of nurses they had now the right of appeal to the house committee before being finally dismissed. It had not been of the slightest use to make complaints before the governors. Their quarterly meeting was merely a great farce. He had always complained more of the inefficiency than of the insufficiency of the staff. In letters which he had received from Mr. Ind dealing more particularly with Miss Page's case, extracts were given from the report of the matron, in which the latter stated that Miss Page had been dismissed for inefficiency, carelessness, giving trouble, and from bad health.

Miss Page was recalled, and denied the statements made in the report of the matron.

On Thursday, July 3rd, the Rev. Tristram Valentine continued his evidence. He complained of the unfairness of the agreement which the probationers were required to sign. He stated that he had known cases in which inefficient women were put to important work in the hospitals. As a case in point, he detailed the eighteen months which Miss Page had been at the London Hospital. He called their lordships' attention to the fact that the matron had said in her letter that Miss Page was dismissed for inefficiency, but within four months from the time she entered the hospital this inefficient nurse was put on staff duty, and took entire charge of a case of tracheotomy. He knew that many nurses were kept at work when they were ill. The house physicians employed at the hospital were mostly inexperienced men, so young that women did not care to consult them. He did not think it judicious to compel the sisters always to sleep in the wards, the atmosphere of which was frequently very foul. Referring to the early hour at which patients were washed, the witness considered that it was made necessary owing to the insufficiency of the staff.

Miss Yatman was recalled and supplemented the evidence which she gave at the previous sitting of the Committee. Owing to insufficiency of the staff in the children's wards many of the patients were frequently seriously neglected. A nurse suffering from poisoned finger, and whose arm was considerably swollen in consequence, was kept on special duty in another ward. Other cases had occurred, but all complaints were unavailing. In one case a nurse, very ill, had consulted the visiting physician, but she remained on duty for a fortnight afterwards.

The next witness was Miss E. Margery Homersham, Lecturer for the National Health Society, and author of "Home Nursing." She said that she had been a probationer at the London Hospital, from which she was dismissed because, being refused permission to visit her dying father, she visited him in spite of this refusal. She appealed to the House Committee and the Governors, but without redress. When she had had only a fortnight's experience, she acted as a special nurse, and had to attend to a case of tracheotomy and some other serious cases. She attributed her good health whilst in the hospital to her never eating the food provided for the nurses. She always provided her own food. In her time the wards were very much overcrowded. One of the physicians objected to his ward being overcrowded, but nevertheless it was frequently in that condition. When that gentleman visited the hospital, however, certain beds were wheeled into the adjoining wards, to be replaced as soon as he had left. It would hardly be fair to say that nurses neglected the opportunities for exercise, for they were often so overdone as to be absolutely unable to take exercise of any kind.

Mr. W. C. Homersham, brother of the previous witness, corroborated her evidence.

Miss Raymond, who was examined at the last sitting, was recalled, and stated that after having been at the hospital twelve months she received an order of dismissal from the matron for alleged incompetency. She did not leave, and one of her friends appealed to the House Committee, and subsequently she was reinstated. She had frequently been in entire charge of wards.

Mr. G. Q. Roberts, secretary to the London Hospital, was the next witness. He said it was not the fact that the matron ever dismissed anyone without the authority of the House Committee. She might hint to a nurse that she was not suited for the work, but he did not consider such an intimation from the matron as tantamount to a dismissal. Lord Cadogan: Who dismissed Miss Page? Witness: The House Committee, upon the report of the matron. Lord Cadogan: But it is evident from the date of the report which you put in as evidence that Miss Page was dismissed before the matron's report reached the House Committee. Who, then, dismissed Miss Page? Witness could not say. Lord Thring: Miss Page left in the first week in May, but the date of the matron's report is July 6th. Witness did not reply. Lord Kimberley: Is it the custom in your hospital to dismiss persons without hearing what they have to say in their defence? Witness: I do not know of any such case having come before the committee.—Lord Thring asked whether the witness knew of any instance in which the committee differed from the matron on the subject of a dismissal, and in reply he said he knew of no such case.—Lord Thring: Then the nurse is simply dismissed on the recommendation of the matron without appeal? The witness did not reply.—The witness proceeded to explain the circumstances under which the Rev. Tristram Valentine left the hospital, and stated that although the charges brought against Mr. Valentine had been disproved, no apology had been made to him.

The committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ATKINSON, F. E., L.R.C.P.Lond., M.R.C.S., has been reappointed Medical Officer for the Craven Comb (Skipton Rural) District.

BLACHFORD, J. V., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer to the Lambeth Infirmary, vice Shaw, resigned.

BLAKISTON, A. A., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Glastonbury.

BLOXAM, G. E., M.R.C.S., L.R.C.P., has been appointed Medical Officer and Public Vaccinator for the No. 7 District of the Bath Union.

BOTT, HENRY, L.R.C.P.Lond., M.R.C.S., has been reappointed Medical Officer for the Brentford Union District.

BURDWOOD, J. W., L.F.P.S., L.M.Glasg., has been reappointed Medical Officer for the Bourn District of the Bourn Union.

BURMAN, C. CLARK, L.R.C.P. & S. Edin., has been appointed Medical Officer for the Shilbottle District of the Alnwick Union, vice R. B. Robson, M.B., resigned.

EMINSON, T. B. F., M.R.C.S., has been appointed Medical Officer for the Scotter District of the Gainsborough Union.

ERSKINE, ROBERT, M.D., M.Ch.Irel., has been reappointed Medical Officer for the Camborne District of the Redruth Union.

FARR, SEPTIMUS B., L.R.C.P.Edin., M.R.C.S., has been reappointed Medical Officer for the Andover Rural and Union Districts.

GAYLOR, EDWARD, L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer for the Ripley Union Districts.

HARRISON, ARTHUR WM., M.R.C.S., L.R.C.P.Lond., has been appointed Junior House Surgeon to the Westminster Hospital, vice F. B. Betts.

HARTLEY, ROBERT N., M.B. Lond., M.R.C.S., has been appointed Honorary Assistant Surgeon to the Leeds General Infirmary, vice Ward.

HICHENS, FRANK, M.D.Lond., M.R.C.S., has been appointed Medical Officer for the Stithians District of the Redruth Union, vice Harris.

HOOD, ALEX. JARVIE, M.B., C.M. Glas. Univ., has been appointed Honorary Surgeon to the Sydney Hospital (N.S.W.), vice McCormack.

HORSFALL, HENRY, M.D. St. And., M.R.C.S., has been reappointed Medical Officer for the Bedale Rural District of the Bedale Union.

HUBBARD, F. E., L.R.C.P.Lond., M.R.C.S., has been reappointed Medical Officer for the Diss Union District.

HUME, F. N., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Superintendent of the Northern Hospital, Metropolitan Asylum District, vice Bruce.

HUSBAND, CHARLES, M.R.C.S., has been reappointed Medical Officer of Health for the city of Ripon.

KELLY, CHAS., M.D. Lond., F.R.C.P., has been reappointed Medical Officer for the West Sussex Combined District.

KERSHAW, ERIC EDWARD, M.R.C.S., L.R.C.P., has been appointed Obstetric House Physician to the Middlesex Hospital.

LIVETT, HENRY W., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer for the Wells Union District.

LOWNDS, HY. A., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer for Farnley Tyas, of the Huddersfield Union.

LOYND, WM., M.R.C.S., has been appointed Medical Officer for the Oswaldtwistle Union District, vice Townley.

MEAD, F. H., M.B. Dur., M.R.C.S., has been appointed Medical Officer for the Bishop's Lydeard District of the Taunton Union.

MILLS-ROBERTS, R. H., M.R.C.S., L.R.C.P., late House Surgeon to the Stroud General Hospital, has been appointed Surgeon to the Dinorwic Hospital and Quarries, North Wales.

MOXON, JAS. B., M.R.C.S., has been reappointed Medical Officer for the Brigg District of the Brigg Union.

MUNRO, A. C., M.B., M.R.C.P. Edin., has been appointed Medical Officer of Health for the Borough of Jarrow-on-Tyne.

NAYLOR, JOSEPH, M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Derby Infirmary, vice G. Edwards, M.R.C.S., L.R.C.P., resigned.

NEWTON, LANCELOT, M.R.C.S., has been reappointed Medical Officer for the Sawtry District of the Huntingdon Union.

POWELL, L. W., M.R.C.S., L.R.C.P., has been appointed House Physician to the Queen's Hospital, Birmingham.

ROSS, HUGH, M.B., C.M. Aber., has been appointed Medical Officer for the Gosforth District of the Whitehaven Union, vice Guy, resigned.

ROWBOTHAM, H. C., M.R.C.S., has been appointed Medical Officer for the Newton-on-Trent District of the Gainsborough Union.

SKINNER, E. WM., M.B., C.M. Edin., has been appointed Medical Officer of Health to the Rye Union.

TANNER, CHARLES E., M.D., M.B. Dur., has been appointed Medical Officer for the North and Seal Districts, and the Workhouse of the Farnham Union, vice Brodie.

WHITE, BARRINGTON SYER, M.D. Dur., M.R.C.S., L.M., L.S.A., has been appointed Medical Officer and Public Vaccinator for the No. 2 District of the New Forest Union, vice G. R. Nunn, resigned.

WIGIN, GEO. W., M.R.C.S., has been reappointed Medical Officer of the Methley Urban District.

WOODFORD, E. R., M.D. Aberd., M.R.C.S., has been reappointed Medical Officer for Ventnor.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—House Surgeon. Salary £80, with board and lodging.

BRISTOL CITY LUNATIC ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with furnished apartments, board (except beer &c.), and washing.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House Surgeon. Salary £40 per annum, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Surgeon. No salary, but board and lodging provided free of cost.

ECCLES AND DISTRICT MEDICAL ASSOCIATION.—Assistant Medical Officer. (Apply to Mr. J. Ramsdale, Secretary, Byron-street, Patricroft.)

GORDON HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.—Assistant Surgeon.

HEXHAM UNION RURAL SANITARY AUTHORITY.—Medical Officer of Health. Salary 200 guineas per annum, which will include travelling and other expenses and disbursements, except forms, postages, and stationery.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT, 26, Margaret-street, London.—Honorary appointments. A Physician in Ordinary. Three Visiting Physicians. A Surgeon.

LOUGHBOROUGH MEDICAL AID ASSOCIATION.—Locum Tenens for six weeks, out-door. (Apply to the Secretary.)

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT.—Resident Medical Officer at Bowdon, Cheshire. Salary £60 per annum, with board, apartments, and washing.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich, S.E.—Junior Resident Medical Officer for six months. Salary £30 per annum, with board, attendance, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Assistant Physician.

PARISH OF FULHAM.—Analyst. Salary £75 per annum.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Junior Assistant House Surgeon. Salary £50, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Assistant Medical Officer. Salary £70 first year, £80 second year, with board and lodging.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and lodging. (Apply to the Assistant Secretary, New Mills, Stroud.)

VICTORIA UNIVERSITY: THE YORKSHIRE COLLEGE, Leeds.—A Demonstrator of Anatomy. Stipend £150. Also a Demonstrator of Physiology.

Births, Marriages, and Deaths.

BIRTHS.

BARROW.—On June 26th, at The Drive, Chingford, Essex, the wife of L. A. Barrow, M.R.C.S., L.S.A., of a daughter.

BATTYE.—On June 25th, at Denbigh-street, S.W., the wife of J. H. Battye, M.D., of a daughter.

DAVIES.—On Thursday, June 26th, at 23, Finsbury-square, the wife of Arthur Templer Davies, B.A., M.B., M.R.C.P., of a son.

FOUNTAIN.—On June 24th, at Arlington-park, Gunnersbury, the wife of E. Osborne Fountain, M.D., of a son.

GLYNN.—On June 18th, at Rodney-street, Liverpool, the wife of T. R. Glynn, M.D., of a daughter.

JONES.—On June 25th, at Sutherland-avenue, W., the wife of Dr. J. Thoresby Jones, of a son.

MAC GEAGH.—On July 1st, at New Cavendish-street, W., the wife of T. E. Foster Mac Geagh, M.D., of a daughter.

MURRAY.—On June 29th, at Savile-row, W., the wife of H. Montague Murray, M.D., of a son.

ORMEROD.—On June 28th, at Upper Wimpole-street, the wife of Joseph Arderne Ormerod, M.D. Oxon., F.R.C.P. Lond., of a daughter.

PAUL.—On June 30th, at Fennel-street, Loughborough, the wife of Reginald Paul, surgeon, of a son.

ROCHE.—On June 16th, at Kanrali, N.W.P., Punjaub, the wife of Surgeon-Major E. A. Roche, M.S., of a daughter.

MARRIAGES.

COOKE—DEANE.—On June 26th, at the Parish Church, Barnstaple, Montague P. Cooke, M.R.C.S., L.R.C.P., L.S.A., of Harbertonford, Totnes, South Devon, youngest son of John Cooke, of Landkey, Devon, to Dorothea, youngest daughter of A. Deane, of Colstrop, Henley-on-Thames.

DARLING—WALKER.—On June 25th, at Old Edinburgh-road, Inverness, Thomas Brown Darling, M.B., C.M. Edin., to Jessie, only daughter of the late James Walker, timber merchant, Inverness.

DES VŒUX—MONKHOUSE.—On June 27th, at St. Andrew's Church, Westminster, Harold Antoine des Vœux, M.D., son of the late Major des Vœux, of Portarlington, Queen's County, to Isabel, widow of George Monkhouse, and daughter of Mr. Nelson, of Friars Caise, Dumfriesshire.

GILL—WORSLEY.—On July 3rd, at St. James', Haslingden, Lancashire, by the Rev. Canon Champneys, M.A., Vicar, assisted by the Rev. R. Parker, M.A., Vicar of Stonefold, David Marmaduke, M.B. and M.Ch., Inveravon House, Haslingden, second son of Marmaduke Gill, of Parkburn, Grantown-on-Spey, to Clara, eldest daughter of the late Alexander Worsley, of Duckworth Clough, Haslingden. No cards.

GUILLEMARD—GUILLEMARD.—On June 25th, at St. Martin's, Dorking, Francis Henry Hill Guillemard, M.D., of Caius College, Cambridge, youngest son of the late I. Guillemard, M.D., of Eltham, Kent, to Katharine Stéphanie, third surviving daughter of the late Rev. W. H. Guillemard, D.D., Vicar of St. Mary the Less, Cambridge, and sometime Fellow of Pembroke College, Cambridge.

LEGGATT—TOMSON.—On June 25th, at St. Mary's, Luton, Gerard Stedman, M.R.C.S. &c., eldest son of Horatio Bethune Leggatt, of Highbury-hill, London, late of Brownwich, Hants, to Alice Maud Charlotte, only daughter of Kitt Tomson, Surgeon, of Ivy Cottage, Luton, Beds.

MALDEN—PRITCHARD.—On June 26th, at St. John Baptist's, Leamington, Frank J. Malden, M.D., of Street, Somerset, to Alice Pritchard, second daughter of the late Rev. C. W. Pritchard, rector of Withington, Hereford.

MONKS—DE BAILLOU-GOLDMANN.—On June 23rd, at the Church of Corpus Christi, Strand, by the Rev. Frederick Skrimshire, Charles, eldest son of P. Monks, of Blackrock, co. Dublin, Surgeon-Major Indian Medical Service, to Blanche Marie Louise, younger daughter of the late Captain L. A. de Baillou, of the French Army, and granddaughter of the late Colonel Count de Baillou, and widow of Max Goldmann.

NICHOLLS—FOULDS.—On June 24th, at St. John's, Derby, Hubert Nicholls, M.A. and M.B. Cantab., M.R.C.S., son of the late John Nicholls, of Champion hill, Surrey, to Edith Frances, second daughter of Dr. Foulds, of Friar Gate, Derby.

PATERSON—PARSONS.—On June 24th, at St. Patrick's Church, Hove, Brighton, Charles Edward Paterson, M.D., of Aldershot, to Evelyn Maud, daughter of Major-General Clifford Parsons.

ROBERTSON—MAY.—On July 1st, at St. Paul's, Paddington, James S. Robertson, M.R.C.S., to Lilian, eldest daughter of the late Edward W. May, of Rio de Janeiro.

SHACKEL—MEREDYTH.—On June 26th, at the parish church, Windsor, George Arthur Shackel, L.R.C.P., M.R.C.S., of Ludlow, Salop, elder son of George Shackel, Esq., Erleigh Court, Reading, to Alice Elizabeth, younger daughter of Sir Edward Henry Meredyth, Bart., of Maudaleen, co. Kilkenny, and of Windsor Castle.

DEATHS.

GREIG.—On June 27th, at 25, Tay-street, Dundee, of typhoid fever, David Greig, M.D., F.R.C.S.E., aged 58.

RONALD.—On June 21st, at Brook House, Great Bardfield, Basil Ronald, L.R.C.P., L.R.C.S., son of the late Robert Eddington Ronald, H.E.I.C.S., aged 37.

SHARP.—On June 25th, at Walsall, the loving wife of Gwinnett Sharp, Surgeon.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 3rd, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
June 27	29·82	W.	61	60	114	71	52	·11	Cloudy
,, 28	29·83	W.	60	55	104	66	51	·01	Bright
,, 29	29·93	N.W.	57	54	102	67	51	·62	Cloudy
,, 30	29·41	S.W.	54	55	101	66	52	·11	Raining
July 1	29·26	W.	57	54	115	71	51	·20	Overcast
,, 2	29·80	N.W.	60	55	112	72	53	·10	Cloudy
,, 3	29·79	N.W.	60	55	102	68	55	·02	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

TRICYCLES.

A. P. H. writes that there are several makers among whose machines there is but little choice. A tricycle which he has just had from G. P. Mills of Biggleswade has been greatly admired, and he would be pleased to show it to "An Old Subscriber." Another correspondent, *H. S.*, strongly recommends the "New Rapid" as the best all-round tricycle for elderly men. He has had his for two years, has ridden over 2000 miles on it, and it is still in good condition. A third correspondent, *H. C. C.*, favours the "Beeston Humber Cripper," which he has used for two years with perfect satisfaction.

Clericus.—1. A sufficiently high temperature destroys the *materies morbi* of septic infection.—2. If *every* precaution be adopted, it is not necessary to cease attending cases.—3. The important point, however, is to take *every* precaution, notably complete disinfection of the hands. For this purpose washing soda, a nail-brush, plenty of hot water, and then a bichloride solution should be used; for the examining finger an antiseptic ointment. Antiseptic precautions should be taken by both nurse and practitioner in every case, not only during the management of labour, but during the puerperium, by employing antiseptic cloths to the vulva, disinfecting douches, &c. We should recommend our correspondent to get a nurse thoroughly trained in antiseptic midwifery, who would carry out his instructions in detail.

Dr. Abrath (Sunderland).—We regret that we cannot find room for our correspondent's lengthy paper.

"HÆMATURIA AND GARDEN RHUBARB."

To the Editors of THE LANCET.

SIRS,—The letter of "Medicus" in THE LANCET of last week reminds me that some years ago I wrote a letter to a medical journal on the subject of irritation of the kidneys from eating rhubarb tarts and drinking at the same time hard water.

I was asked by an old practitioner, now no more—a fellow-student of the late Mr. Thomas Wakley, M.P., and a most enthusiastic admirer of his—to consult with him about some of his patients. He was having a little local epidemic of kidney complaints, of which complaint he himself was not quite free, and he could not discover the cause of it, unless it was owing to the great heat of the weather." The majority of the patients had frequent micturition, several of them had hæmaturia, and all of them complained more or less of pain in the loins and of general indisposition. After some consideration it was found that the medical gentleman and his patients were eating delicious rhubarb tarts; indeed, several of his patients were indulging in them morning, noon, and night, and, in addition, they were drinking hard water rather copiously, as the weather was very hot. With these facts before us, the production of the epidemic was quite easy of explanation. The rhubarb supplied plenty of oxalic acid, and the hard water an abundance of lime; so countless minute calculi of oxalate of lime, easily seen in the urine with a magnifying glass, were manufactured in the system, and caused the symptoms complained of. From that day to this I have been on the look-out for kidney complaints in the spring and summer, and I frequently find them and the cause of them. Gooseberries, when eaten freely, often produce symptoms similar to rhubarb, and so do acid unripe apples. In the production of these kidney affections lime seems to me to be an almost necessary ingredient.

I am, Sirs, yours truly,

Lincoln, June 30th, 1890. WILLIAM O'NEILL, M.D.

To the Editors of THE LANCET.

SIRS,—I am glad "Medicus" has sent his letter to you on the subject of garden rhubarb, for his having done so has at last induced me to record my own experience, which I have intended doing for years, but always delayed. I am affected exactly in the same way as "Medicus." For years I used to suffer from painful micturition after eating rhubarb. The irritability of the bladder and dyspnœa generally came on during the night after taking it at late dinner. The symptoms, however, were not so severe as to deter me altogether from taking it in small quantities. On one occasion, five years ago, I hurriedly, and without remembering, partook freely of rhubarb dumpling at luncheon. In the afternoon intense dysuria seized me, and was accompanied by profuse hæmaturia, which lasted for four days. Since then I have abstained from it. The condition of my bladder and kidneys is, and has been, absolutely healthy. They have never given me any trouble except after the use of rhubarb. I too, like your correspondent, have been unable in any book to find this effect of rhubarb recorded. If "Medicus" likes to try the succulent stem again, he will find that he can do so almost with impunity if he uses it very early in the season, when it is quite young. I suppose there are fewer oxalates in its early growth. I have met with two other persons similarly affected to "Medicus" and myself. I am, Sirs, yours truly,

June 30th, 1890. M.D.

To the Editors of THE LANCET.

SIRS,—Your correspondent "Medicus," in your last issue, is quite correct in his estimate of the amount of oxalate of lime in garden rhubarb, as evidenced by the enclosed photo-micrograph, and should the stellate crystals with their sharp points pass through the delicate uriniferous tubuli in their unaltered condition would doubtless lacerate them and produce hæmaturia; but after undergoing the action of the gastric fluid, it is questionable if they would be reconstituted in their normal form. I am, Sirs, yours obediently,

Belgrave-road, S.W., July 1st, 1890. T. CHARTERS WHITE.

INFANTILE INSURANCE.

To the Editors of THE LANCET.

SIRS,—The fact that at last steps seem about to be taken to inquire into the practice of insuring the lives of very young children cannot but bring a sense of relief and satisfaction to the minds of all medical men who have, in the out-patient department of the hospital or in general practice, been brought in contact with a large number of the children of the poor. They will be able to recall instances where illegitimate children have died under their observation, apparently receiving the attention necessary to their condition, but leaving a feeling of doubt as to the fact—a doubt which, from insufficient evidence, it would be difficult or not justifiable to act on. It is not easy to define the reasons that excite the medical man's suspicions. It may be that he is struck with the fact that the child might perhaps have been brought for treatment a little sooner; that a rather long interval takes place before it is brought again; or that there is always a full bottle of milk or other food near it somewhere when his visit is expected. A second and generally older woman than the mother is almost invariably present, who asks questions and volunteers statements as to the child having "screaming convulsions," "Can't keep down its food," &c., as if to prepare the practitioner for what will soon happen. Meanwhile the child wastes away, perhaps gets convulsions, and dies. The certificate of death and insurance money are obtained, as the medical attendant cannot say its death was not due to natural causes, and there it ends. The Englishman is second to no man in his love for his children; but my remarks are chiefly directed to the illegitimate child, whose presence is a disgrace, whose support is a task which gives no pleasure, and whose death is a double gain. In my opinion, no young people should be permitted by law to be insured under the age of sixteen years. That would protect all. Parents are supposed to work for their children until those children are able to work for themselves.

I am, Sirs, yours faithfully,

Brighton, June, 1890. W. CAREY JEFFRIES.

"CAN JAUNDICE BE INFECTIOUS?"

To the Editors of THE LANCET.

SIRS,—Mr. Raven asks the above question in your last issue, p. 1443, and narrates a case answering it in the affirmative. A glance at Section 974:5 of the "Medical Digest" will show that several observers have also answered the question affirmatively.

I am, Sirs, yours obediently,

Boundary-road, N.W., July 1st, 1890. RICHD. NEALE, M.D. Lond.

THE LATE R. H. S. CARPENTER, L.R.C.P.

To the Editors of THE LANCET.

SIRS,—At a meeting of medical men, held last Wednesday, at 1, Old Serjeants'-inn, a committee was formed having for its objects the raising of a fund to be devoted to the double purpose of placing a suitable memorial stone over the final resting-place of the late Mr. Carpenter, of Stockwell-road, Brixton, and of relieving the very pressing wants of the daughters he has left to deplore their loss.

I would, with your kind permission, make a very earnest appeal to the medical profession on behalf of those daughters. It is well known that the deceased was a most unselfish man, and spent his life for the benefit of his professional brethren. He neglected his own interests in fighting the battles of struggling medical men against illegal practice, unfair competition, and all that tended to undermine, harass, and ruin the general practitioner. He was ever ready, by his pen and voice, to give both time and money in defending and upholding the rights of the great mass of the profession. The smallest contribution will be thankfully received.

I may add that I have received several letters from gentlemen expressing sympathy for and promising support to the fund, and up to the moment of writing I have received the following amounts:—

Dr. Lionel Beale	.. ..	£2	2	0	Dr. Soane	£1	1	0
Dr. Paramore		2	2	0	Mr. Albert Smith	0	10	6
Mr. Sers..		3	3	0	A Friend in Durham ..	0	5	0
Mr. Campbell Boyd		1	1	0	*Medical Press & Circular*	1	1	0

I am, Sirs, yours faithfully,

JOHN PAGE HENTSCH, M.R.C.S.

201, Southampton-street, Camberwell, S.E.

Dr. Rentoul is thanked for his three communications on three separate subjects. Though we cannot find room for them, we take note of his views, and as the subjects emerge for public discussion will give them due consideration. He is strongly opposed to the Midwives Bill. He will be pleased to see that we, at any rate, agree with him so far in wishing to restrict midwives to the purely natural cases of labour. He must remember that midwifery by midwives is already recognised by law, and that the object of legislation is to control and restrict the number of those practising it.

"HOME FOR EPILEPTICS."

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry of "A Twenty Years' Subscriber," which has just been brought to our notice, we beg to be allowed to say that we have a home for epileptics &c. at the address given below, and that we shall be pleased to forward testimonials and references on application. We are, Sirs, yours obediently,

Woodlands, East Hoathly, Sussex, June 28th, 1890. G. & S. BELLEW.

North.—If the medical men of the Dentorium are fully qualified, and conduct their business in a professional way, we can see no impropriety in the presence of medical men to administer anæsthetics. With reference to the other point, we must ask our correspondent to supply us with fuller particulars.

Mr. Mark H. Judge.—Our correspondent's letter should be sent to the journal in which the communication to which it is a reply appeared.

TRANSPOSITION OF THE HEART.

To the Editors of THE LANCET.

SIRS,—As cases of complete lateral transposition of the heart are rare, perhaps you will allow me to record that I have at present under my care a youth who is suffering from phthisis in whom the cardiac dulness, apex beat, and sounds are all situated on the right side, generally corresponding to their normal position on the left. The apex beat is distinct about an inch and a half below and one inch to the right of the right nipple. On the left side, where the heart is normally situated, pulmonary resonance and percussion are natural. He is one of a large family, mostly boys, and there is nothing striking in his family or personal history. I am, Sirs, yours faithfully,

S. A. L. SWAN, M.D.,
Surgeon Gilford Works and Hospital.

Gilford, County Down, July 2nd, 1890.

Suffolk.—Our correspondent asks which is the best diploma in public health. It appears to us that his proximity to Cambridge suggests that university. We imagine that by corresponding with the University authorities he would be able to learn of someone who would undertake to direct him in the practical work, and give him such other assistance as he might need. We would suggest his writing to those who have the conduct of the public health examinations at Cambridge.

"SPASMODIC TORTICOLLIS."

To the Editors of THE LANCET.

SIRS,—I intended to convey to your readers that nothing was amiss, so far as I could judge, with the parts in question. Sending the nerve from the anterior border is a much more difficult and less certain procedure. I am, Sirs, yours faithfully,

New Cavendish-street, W. MAYO COLLIER.

"WHEN IS A CHILD VIABLE?"

IN THE LANCET of June 14th, p. 1341, under the above heading, we have, in the letter of Mr. Cordes of Geneva, by an obvious oversight translated 625 grammes as 25 oz., instead of 22·5 + oz.

Mr. Frank English.—We hardly think a knowledge of the subjects mentioned by our correspondent essential to his calling, even when "dealing with the medical profession."

Iris.—We are not prepared to admit any grave objection, under the circumstances stated by our correspondent, and provided that the same healthy surroundings be continued.

Tril. M. Shap (Kattyawar, India).—The book has been received, and is receiving attention.

Surgeon.—We would not recommend our correspondent to take further trouble in the matter.

Messrs. Pocock Bros.—At Birmingham, on July 29th.

A. E. J. has not enclosed his card.

Dr. MacQueen is thanked.

ERRATA.—In the account of the meeting of the Ophthalmological Society held on June 12th, published in our last issue, Mr. Hulke should have been reported as follows:—"He said that he had come rather to listen and learn than to speak, as his experience did not furnish him with sufficient grounds for forming a final judgment; but he fully endorsed the views of Mr. Critchett and Mr. Tweedy with regard to the ethics of this question, and would not himself feel justified in meditating the operation, or suggesting it to a patient as a practice to be generally adopted. He had hitherto reserved the extraction of immature cataracts to cases demanding exceptional treatment."—In our article last week on the Convocation of the University of London, on page 1432, the third line of the second column should read "as to the result of the election of a Fellow *of* the Senate," instead of "by" the Senate.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Herman, London; Mr. Ed. Bellamy, London; Dr. O'Neill, Lincoln; Mr. Fred. Treves, London; Dr. H. Sutherland, London; Messrs. Burgoyne and Co., London; Mr. Saunder, Manchester; Mr. Langworthy, South Devon; Mr. Chouting, Steyning; Dr. Diver, Kenley; Messrs. King and Co., London; Mr. Coote, Walthamstow; Messrs. Street and Co., Cornhill; Mr. Wynn, Nottingham; Mr. Ryan, Cashel; Mr. Jones, London; Dr. Madden, Bristol; Mr. Husband, Leeds; Mr. Considine, Ennis; Mr. Stenhouse, Glasgow; Dr. Steven; Messrs. Meggy and Thompson, Chelmsford; Mr. Kingsford, Chepstow; Messrs. Krohne and Sesemann, London; Mr. E. Powell Watkin, Notts; Mr. Frank English; Mr. H. E. Mann, Homerton; Dr. E. Goodmann, Freiberg in Baden; Dr. Burder, Bristol; Mr. Mocatta, London; Dr. T. More Madden, Dublin; Prof. B. C. A. Windle, Birmingham; Mr. Irwin Bolton, Roumania; Mr. J. R. White, Brentwood; Messrs. Pocock Bros., Southwark; Mr. G. A. Abrath, Sunderland; Mr. W. Wykenham Myers, Formosa; Mr. Ed. Mosley, Hastings; Messrs. May, Davis, and Co., London; Mr. Phin. Abraham, London; Mr. F. Sorrel, French Hospital; Mr. A. Cordes, Geneva; Mr. W. Squire, London; Mr. John Low, London; Mr. Branthwaite, Worcestershire; Mr. A. Symonds Eccles, London; Dr. Fyffe, London; Mr. Laffan, Cashel; Mr. Gordon Smith, London; Dr. Myles, Brecon; Mr. Scott, Durham; Mr. Mayo Collier, London; Mr. J. Weaver, Southport; Mr. Vickers; Dr. Nestor Tirard, London; Mr. J. L. Hamilton, Brighton; Messrs. G. and S. Bellew; Mr. C. J. Bond, Leicester; Mr. H. B. Donkin; Dr. Robert Bell, Glasgow; Mr. T. Scattergood, Leeds; Mr. R. Rentoul, Liverpool; Mr. J. Stewart, Clifton; Mr. A. H. Jacob, Ireland; Mr. J. A. Lindsey, Belfast; Mr. Keiller, Dundee; Mr. Hugh Fairlie, Newton Stewart; Mr. Bowes, Devizes; Dr. Brow, co. Kerry; Messrs. Griffin and Co., London; Mr. W. C. Jeffries, Brighton; Messrs. Christy and Co., London; Mr. T. Ledlie, Dublin; Dr. Richd. D. Neale; Dr. Edgar Willett, London; Messrs. Livingstone, Edinburgh; Messrs. Lee and Martin, Birmingham; Mr. W. E. Stevenson, London; Mr. T. Charters White, London; Mr. Worsley, Lancashire; Dr. Lowe; Mr. J. Hope Potter, Devon; Mr. Jones, London; Dr. Campbell Black; Dr. Norman Kerr, London; Mr. Birchall, Liverpool; Dr. Hamilton, Windermere; Mr. Woodhead, Balham; Mr. Aveling, Paddington; Mr. Ramsdale, Eccles; Mr. Maw, Bradford; Mr. Watson, London; Mr. Hodgson, Brighton; Mr. H. J. Nance, Walmer; Dr. Hadden, London; Dr. G. Duncan, Berlin; Mr. Denselow, Walham-green; Mr. W. Priestman, Hull; Miss Thompson; Mr. Hunt, Manchester; Messrs. Orridge and Co., London; Mr. Myers, Birmingham; Messrs. Smith, Elder, and Co., London; Miss Edwards, Chelmsford; Messrs. Hopkinson and Co., Nottingham; Dr. H. Sainsbury, London; Messrs. Reynolds and Branson, Leeds; Dr. Swan, Gilford, co. Down; Messrs. Blondeau et Cie., London; Mr. Williams, Carmarthen; Messrs. Scholler and Co., London; Mr. Bailey, Hexham; Mr. A. Cooper; Messrs. Barker and Co., London; Mr. W. J. Walsham, London; Mr. H. F. Devis,

Bristol; Mr. Norton, Bermondsey; Mr. Beach, Dartford; Dr. Buck, Clapham-common; Mr. Hornibrook, London; Mr. Robinson, Sheffield; Dr. Elliott, Yorkshire; Mr. Lacy, Wandsworth; Mrs. Delany, Wingstown; Mr. Kirby, Tottenham; Mr. Godfrey, Jersey; Mr. Philip, Aberdeenshire; Dr. MacQueen, Eastbourne; North; Yorkshire College, Leeds; A. L., Lincoln's-inn; Partnership; Jeyes' Sanitary Compounds Co., London; Anxious, London; Suffolk; Birmingham Eye Hospital; Walthamstow; Iris; L.R.C.P.; Clericus; Maltine Manufacturing Co., London; A. E. J.; Matron, Windsor; Società Letture Conversazioni Scientifische, Genova; Scotia, London; A Student; Asst. Sec., Stockport.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Dixey, Malvern; Surgeon-Major Johnson, Aldershot; Messrs. Playfair and Scott, Bromley; Mr. Davies, Monmouthshire; Mr. Empson, North Walsham; Mr. Truscott, Truro; Mr. Adams, London; Messrs. Read and Co., Bristol; Mr. Beale, Dondon; Mr. Shaw, Dublin; Mr. Tyte, Minchinhampton; Mr. Malone, Cumberland; Dr. Beddoes, Aberystwith; Miss Ungent, London; Mr. Tully, Hastings; Mr. Sacker, Fenchurch-street; Mr. Hawthorne, co. Down; Mr. Thompson, Bideford; Mr. Norton, Staplehurst; Mr. Thompson, Walsall; Mr. Thin, Edinburgh; Mr. Rayner, Colchester; Mr. Joyce, Ireland; Dr. Bowhay, Tavistock; Mr. McCormack, Lancs; Mr. Fenton, Rugeley; Mr. Sharp, Walsall; Dr. Hamilton, Brighton; Mr. Atkinson, Ireland; Mr. Bonar, Cornwall; Mr. Buckle, London; Mr. Deane, Croydon; Messrs. Down Bros., London; Dr. Kelso, Kincardine; Messrs. Mottershead and Co., Manchester; Mr. Rawlings, Swansea; Messrs. Seabury and Johnson, London; Dr. Chattegee, India; Dr. Gibbons, Market Harboro'; Mr. Stover, Beds; Mr. Davies, London; Messrs. Porteous and Co., Glasgow; Dr. Thorburn, Manchester; Mr. Baxendale, Lancashire; Mr. Rauschke, Leeds; Dr. Unwin, Rugby; Mr. Kingsford, Chepstow; Mr. Wynne, Nottingham; Mr. Heywood, Manchester; Dr. Worsley, Haslingdean; Mr. Cochrane, Wigtonshire; Mr. Blake, Upper Holloway; E. L. F., London; Tomlinsons, Stamford-hill; Statim, London; F.R.C.S., Manchester; M.D., London; Partnership, Leicester; H. P. D., London; Certitude, London; F. T. M., Southport; Physician, London; Briarius, London; X., London; T. E. H., Lancashire; Omega, London; Alpha, Bedford; Anxious; J. R. H., London; Gobierno, London; Manager, Plymouth; L. O. S.; A. B. C., London; Prompt, London; A. J. Y., London; R., London; Medicus, Edinburgh; G. G., Anerley; Hydro, London; Alpha, London; J. R., Manchester; Medicus, Margate; M. C., Folkestone; Physican and Surgeon, London; Chirurgicus, London; Max, London; Edinburgh School of Medicine; Smilax, London.

NEWSPAPERS.—*Blackburn Standard, Sligo Champion, South Wales Daily News, Birmingham Daily Post, Scotsman, Bristol Times and Mirror, Manchester Examiner, Northern Whig (Glasgow), Local Government Chronicle, Reading Mercury, Western Mail, Carlisle Express, Weekly Free Press and Aberdeen Herald, News, Reading Standard, Hertfordshire Mercury, Kilkenny Journal, Broad Arrow, Sheffield Daily Telegraph, City Press, Chemist and Druggist, Mining Journal, New York Herald (London), Surrey Advertiser, West Middlesex Standard, Rock, Sunday Times, Builder, Windsor and Eton Express, Public Opinion, Edinburgh Evening Dispatch, Sussex Daily News, Metropolitan, Architect, Spectator, Western Morning News, Saturday Review, Daily News, Yorkshire Post, Newcastle Chronicle, Law Journal, Globe, Home News, Guy's Hospital Gazette, Huddersfield Daily Chronicle, Bridlington Free Press, Echo, West Middlesex Advertiser, Eastern Daily Press, North British Daily Mail, Salisbury Times, Oldham Standard, North Wales Guardian, York Evening Press, Observer, Irish Times, Western Daily Press, Kent Herald, Hunts County Guardian, Bristol Evening News, Ossett Observer, Cork Examiner, The Schoolmaster, Manchester Evening Mail, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, July 7.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, July 8.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, July 9.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, July 10.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, July 11.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 12.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year	£1 12 6	Six Months	£0 16 3
TO CHINA AND INDIA	One Year	1 16 10	
TO THE CONTINENT, COLONIES, AND UNITED STATES	Ditto	1 14 8	

Post Office Orders and Cheques should be addressed to The Publisher, THE LANCET Office, 423, Strand, London, and crossed "London and Westminster Bank, St. James's-square."

ADVERTISING.

Books and Publications (seven lines and under)	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Every additional Line	0 0 6
Front Page per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Set a Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin Paris.